

PROTECTION OF LECHUGUILLA CAVE

Y 4. R 31/3:103-8

Protection of Lechuguilla Cave, Ser...

-----RING

BEFORE THE

SUBCOMMITTEE ON NATIONAL PARKS,
FORESTS, AND PUBLIC LANDS

OF THE

COMMITTEE ON
NATURAL RESOURCES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

ON

H.R. 698

TO PROTECT LECHUGUILLA CAVE AND OTHER RESOURCES AND
VALUES IN AND ADJACENT TO CARLSBAD CAVERNS NATIONAL PARK

HEARING HELD IN WASHINGTON, DC
MARCH 2, 1993

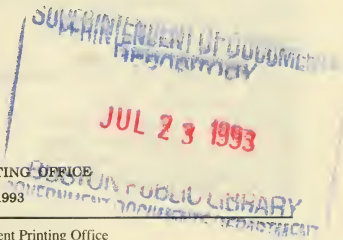
Serial No. 103-8

Printed for the use of the Committee on Natural Resources



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CONTENTS

| | Page |
|-----------------------------------|------|
| Hearing held: March 2, 1993 | 1 |
| Text of the bill: H.R. 698 | 2 |

MARCH 2, 1993

Statements:

| | |
|---|---|
| Opening statement of Chairman Vento | 1 |
| Hon. James V. Hansen, a Representative in Congress from the State of Utah | 7 |
| Hon. Joe Skeen, a Representative in Congress from the State of New Mexico | 9 |

Panel consisting of:

| | |
|--|----|
| Hillary A. Oden, Assistant Director, Energy and Minerals Resources, Bureau of Land Management, Department of the Interior, accompanied by Joe Incardine, Geologist, Bureau of Land Management ... | 26 |
| Dennis Fenn, Ph.D., Deputy Associate Director, Natural Resources, National Park Service, Department of the Interior, accompanied by Ronal Kerbo, Cave Management Specialist, National Park Service, and Harvey Duchene, Private Sector Petroleum Geologist | 35 |

Panel consisting of:

| | |
|--|----|
| Daniel Fong, Ph.D., Assistant Professor of Biology, the American University, Washington, DC, representing the Conservation Committee of the National Speleological Society, accompanied by John Shelton, National Speleological Society Liaison to the National Park Service | 55 |
| John B. Gustavson, Geologist and Petroleum Engineer, Boulder, CO, representing Yates Energy Corporation | 65 |

APPENDIX

MARCH 2, 1993

Additional information for the record:

| | |
|---|----|
| Prepared statement of Congressman Curt Weldon, a Representative in Congress from the State of Pennsylvania | 81 |
| Letter to Chairman Vento from Richard T. Gale, President, Association of National Park Rangers, dated February 18, 1993 | 84 |

H.R. 698, TO PROTECT LECHUGUILLA CAVE AND OTHER RESOURCES AND VALUES IN AND ADJACENT TO CARLSBAD CAVERNS NATIONAL PARK

TUESDAY, MARCH 2, 1993

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON NATIONAL PARKS, FORESTS AND PUBLIC LANDS, COMMITTEE ON NATURAL RESOURCES,

Washington, DC.

The subcommittee met, pursuant to call, at 10:05 a.m., in room 1324, Longworth House Office Building, Hon. Bruce F. Vento (chairman of the subcommittee), presiding.

OPENING STATEMENT OF CHAIRMAN VENTO

Mr. VENTO. The Subcommittee on Parks, Forests and Public Lands will be in order.

Today, we are going to hear testimony on H.R. 698, which I introduced on January 27. It is intended to provide additional protection to the Lechuguilla Cave in New Mexico. This is located in Carlsbad Caverns National Park in New Mexico, at least the portions that we are now aware of. Lechuguilla, of course, is a phenomenal resource. It is the deepest cave in the United States, over 1,500 feet in depth; extends more than 60 miles, and that probably has been only partially defined, exceeding already Carlsbad Caverns itself, with the possibility that this is only a small percentage, as I mentioned, of its full size.

Lechuguilla Cave also contains many rare and unusual features such as the gypsum chandeliers. I note that we have kindly been provided a copy of Lechuguilla Cave by one of the organizations that has been most interested in protecting it, and so we are deeply grateful. I think that most of the members will be receiving copies of this coffee table book which permits us to share in some of the phenomenal resources, at least visual resources that are present in the area.

This cave is described by experts as the best example of such formations in the world. The carbonate formations are also abundant in the area, but the gypsum formations that we view in these photos are very unusual. The full extent and significance of this cave has only begun to be recognized. For example, through articles such as the one that appeared in National Geographic in 1992, March 1992, that describes in more detail some of those resources for the members.

[A copy of the bill, H.R. 698, follows:]

103D CONGRESS
1ST SESSION

H. R. 698

To protect Lechuguilla Cave and other resources and values in and adjacent to Carlsbad Caverns National Park.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 27, 1993

Mr. VENTO introduced the following bill; which was referred to the Committee on Natural Resources

A BILL

To protect Lechuguilla Cave and other resources and values in and adjacent to Carlsbad Caverns National Park.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE AND FINDINGS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the
5 “Lechuguilla Cave Protection Act of 1993”.

6 (b) **FINDING.**—Congress finds and declares that
7 Lechuguilla Cave and the other resources of Carlsbad Cav-
8 erns National Park and adjacent public lands have inter-
9 nationally-significant scientific, environmental, and other
10 values that should be retained in public ownership and

1 protected against adverse effects of mineral exploration
2 and development and other activities presenting threats to
3 those values.

4 **SEC. 2. LAND WITHDRAWAL.**

5 (a) IN GENERAL.—Subject to valid existing rights,
6 the lands referred to in subsection (b), and all other lands
7 within the boundaries of the area specified on the map
8 referred to in such subsection which may become subject
9 to the operation of the public land laws, are hereby with-
10 drawn from all forms of appropriation under the public
11 land laws (including the mining laws) and from the oper-
12 ation of the mineral leasing and geothermal leasing laws.

13 (b) LAND DESCRIPTION.—The lands referred to in
14 subsection (a) are the public lands comprising approxi-
15 mately 5100 acres in Eddy County, New Mexico, as gen-
16 erally depicted on the map entitled “Dark Canyon Cave
17 Protection Area”, dated January 1993, and filed in ac-
18 cordance with subsection (c).

19 (c) PUBLICATION AND FILING.—As soon as possible
20 after the date of the enactment of this Act, the Secretary
21 of the Interior shall publish in the Federal Register a no-
22 tice containing the legal description of the lands with-
23 drawn by subsection (a), and shall file such legal descrip-
24 tion and a detailed map of the lands referred to in such
25 subsection with the Committee on Natural Resources of

1 the House of Representatives and the Committee on En-
2 ergy and Natural Resources of the Senate.

3 (d) TECHNICAL CORRECTIONS.—The map and legal
4 description referred to in subsection (b), shall have the
5 same force and effect as if they were included in this Act
6 except that the Secretary of the Interior may correct cler-
7 cal and typographical errors in such map and legal de-
8 scription.

9 (e) PUBLIC INSPECTION.—Copies of the map and
10 legal description referred to in subsection (b), shall be
11 available for public inspection in the offices of the Director
12 and appropriate State Director of the Bureau of Land
13 Management.

14 (f) MANAGEMENT.—The lands withdrawn by this sec-
15 tion shall be managed by the Secretary of the Interior,
16 acting through the Bureau of Land Management, pursu-
17 ant to the Federal Land Policy and Management Act of
18 1976 (43 U.S.C. 1701 and following) and other applicable
19 provisions of law, including this Act.

20 **SEC. 3. MANAGEMENT OF EXISTING LEASES.**

21 Notwithstanding any other provision of law, the Sec-
22 retary of the Interior shall not permit the holder of any
23 mineral lease affecting lands withdrawn by section 2 or
24 any adjacent public lands in New Mexico that are man-
25 aged pursuant to section 603 of the Federal Land Policy

1 and Management Act of 1976 (43 U.S.C. 1782) to carry
2 out any drilling or other activities on such lands that could
3 have any adverse effects on Lechuguilla Cave or any other
4 cave resources located within Carlsbad Caverns National
5 Park or within the lands withdrawn by section 2.

O

Mr. VENTO. Carlsbad Caverns National Park is located in the Guadalupe Mountains, part of the Capitan Reef formation that stretches from Carlsbad to the Guadalupe National Park in Texas. The geology has lent itself to the formation of extensive caverns which also comprise some of the most rugged and remote and spectacular landscapes in that State. Adjacent to Carlsbad Caverns National Park are the national forest lands and public lands managed by the Bureau of Land Management, including a number of areas BLM manages as Wilderness Study Areas under section 603 of FLPMA.

For a number of years, there have been proposals to afford national park, wilderness or other special protective status to the lands in this general area, with greater protection of caves from adverse effects of mineral exploration, especially drilling for oil and gas being a major objective of the proponents of such measures; that is, those seeking protection.

Concerns about possible effects on oil and gas drilling on the cave resources in this area have heightened as there have been increased mineral exploration activity, primarily on lands near the Dark Canyon Area north of Carlsbad Caverns National Park. In fact, I know that Congressman Richardson initially had introduced legislation giving protective status to Lechuguilla Cave some years ago. Other members of the delegation may also have sought protection in other measures that don't immediately come to my mind.

Because of the possible adverse effects on Lechuguilla Cave and other nationally significant resources from such drilling activity associated with the risk of gas well blowouts, such as inadvertent alteration of cave structures or contamination or simple hydrological changes in the groundwater or aquifer formations beneath the surface, during the last Congress I proposed withdrawing the Dark Canyon Area from mineral entry and mineral leasing. This withdrawal was approved by the committee as part of the bill to withdraw other public lands for the Waste Isolation Project, or WIPP facility, but was not included in the final version of that legislation. So this is not the first attempt that the committee has made with regards to this. The committee has been and is very interested in this resource.

Similarly, we have been involved with identification and indicating of cave resources on public lands as well as, concerns about other types of leasing such as geothermal leasing in and around other types of park or other conservation resource areas.

The measure before us that I have submitted for consideration and will be heard today addresses possible development of already existing mineral leases. This is new in the sense that we are trying to address the existing leases, not just potential future leases. The BLM is currently reviewing plans for such development adjacent to Carlsbad Caverns National Park and has issued a draft environmental impact statement on this subject.

The bill would prohibit the Secretary of Interior from permitting the holder of a lease involving the Dark Canyon Area or any adjacent BLM Wilderness Study Area to carry out any drilling or other activities that could have any adverse effects on Lechuguilla or any other cave resource within the Carlsbad Caverns National Park or the Dark Canyon area.

One only wonders at the passive role of the Park Service in the last decade, especially since the rediscovery or the full discovery of what has been known as Lechuguilla Cave. The cave's entrance was identified in 1914, but only recently, in the Eighties, has come to light the full extent of this particular resource. But one not only has to wonder about the passive role that the Park Service has played in this case in terms of not working with the BLM and/or the Forest Service concerning the potential impact of their activities on Carlsbad and on Lechuguilla Cave, which is located—or the entrance of which is located at least in the park.

It has been called to my attention that the New Mexico State BLM Director has seen fit to in fact provide a dollar value agreement agreeing to a Yates Energy private appraisal of \$18.7 million as the value of certain leases. It is clear to me that this is an ill-conceived and hasty action by the New Mexico BLM State Director to discourage action on our efforts and to make the task of protection of this important resource more difficult at Lechuguilla.

I am very disappointed, of course, with the action of the Director in this particular case, the State Director. His action casts a shadow on the concluding service of a long career. Certainly this reflects, at least to me, poor judgment, and provides comfort to the holder of the gas and oil lease, but it doesn't adequately consider the public interest in a world-class resource, Lechuguilla Cave, which is a part of our American heritage.

So I am very disappointed to note that particular action, especially since the EIS has not been finalized, and one of the alternatives is a "no drill" alternative in the EIS, and I just don't see the basis for taking that particular action and giving aid and comfort. I wish that that had not occurred. I think it is ill-conceived and poor judgment on the part of the State Director, who I note is going to be leaving public service shortly after a distinguished career. But I am very disappointed in that action, especially since this is pending legislation. It clearly is aimed at, as I said, giving aid and comfort to Yates Energy, but I really think that that was not necessary and inappropriate in this instance.

Mr. Hansen, do you have any opening comments?

**STATEMENT OF HON. JAMES V. HANSEN, A REPRESENTATIVE
IN CONGRESS FROM THE STATE OF UTAH**

Mr. HANSEN. Very briefly, Mr. Chairman. Thank you for recognizing me. I, too, welcome the witnesses here, especially our friend Joe Skeen.

If it is okay with the chairman, I would ask unanimous consent that my opening remarks could be included as part of the record on this legislation.

Mr. VENTO. Yes. Without objection, your entire statement and other statements of members and witnesses in their entirety will be made a part of the record.

No objection? So ordered.

Mr. HANSEN. Thank you. I would like to add, if I may, that I sit on a committee called Intelligence. It is having a very important hearing this morning, and somehow they got scheduled at exactly the same time, which rarely happens around here, as we all know. [Laughter.]

So I think that with your permission I better run to that meeting. I have my information here and I will submit it. Thank you.

I have to say I have a little concern on the one bill. Looks to me like it has the potential of creating a buffer zone. As you know, I go into orbit and ballistics when buffer zones are mentioned, as I represent the State of Utah, which is basically owned by the Federal Government, and buffer zones would, in fact, give you all of the State, and I hate to see any precedents established.

Mr. VENTO. Would the gentleman yield to me?

Mr. HANSEN. Yes. I would be happy to.

Mr. VENTO. You know, this is a legislated action, so it is no reason to imply that there would be anything left hanging. I mean I think you should take comfort in the fact that we are trying to legislate specific land policy, not infer that it is going to occur.

Mr. HANSEN. Well, I appreciate that. I have to admit, or have to say that anything that even infers something of buffer zones makes me very, very nervous. I have taken comfort before and been rolled, so comfort is a hard thing for me to take around here. [Laughter.]

Thank you very much.

Mr. VENTO. I thank the gentleman and I trust he will do his homework on this issue.

[The prepared statement of Mr. Hansen follows:]

OPENING STATEMENT OF HON. JIM HANSEN

Mr. Chairman, while I do have questions about the need for this legislation, which does not appear to confer substantial additional authority to the Secretary of the Interior, and the timing of the legislation, when the Interior Department is in the middle of an EIS, I do support your efforts with this bill and agree that the spectacular resources of Lechuguilla (pronounced lech a gee ah) Cave deserve protection. While that may sound like a "motherhood and apple pie" statement, I assure you that is not the case for this gentleman.

As you know, in the past I have strongly opposed efforts in this Committee to transform BLM lands adjacent to national parks into buffer zones on a wholesale basis, and I intend to continue to do so. However, this legislation points out that on a site-specific basis, where there is a direct relationship between park resources and activities on adjacent BLM lands, protective action may be warranted.

Having said that, I also recognize that enactment of this measure and any resulting compensation to current oil and gas leaseholders could ultimately cost the taxpayers of this country tens of millions of dollars. Therefore, I intend to carefully follow this legislation to ensure that the final language is both reasonable and based on sound scientific evaluation. I hope we avoid repeating the scenario of last Congress when we rejected a thorough USGS scientific report on the impacts of using natural overflow from a hot springs outside of Yellowstone National Park in favor of a park biologist advocating absolute protection and passed out of this Committee an unnecessary buffer zone bill.

I look forward to working through these issues with you and the gentleman from New Mexico, as I know that he has a keen interest in this matter.

Mr. VENTO. Mr. Thomas.

Mr. THOMAS. Mr. Chairman, I just welcome and I am glad the gentleman is here who represents this district. I think that is a very important part of it.

I have nothing further.

Mr. VENTO. Thank you.

We are pleased to welcome Congressman Joe Skeen from the 2nd District of New Mexico.

Mr. Skeen, your statement has been made a part of the record, so you can feel free to summarize or to read the relevant parts thereof. Please proceed.

STATEMENT OF HON. JOE SKEEN, A REPRESENTATIVE IN
CONGRESS FROM THE STATE OF NEW MEXICO

Mr. SKEEN. Thank you, Mr. Chairman, and members of the committee. I appreciate the opportunity to be with you today to offer some thoughts and comments on the pending legislation to protect Lechuguilla Cave. I would just say in response to the chairman's remarks, the horse is out of the barn. The problem is that you have two great natural resources involved in this particular piece of legislation. But you also have the right to some people who in good faith were operating long before the cave was discovered and to the extent that it is today. So I think that there is something that we are going to have to consider in the area of compensation, notwithstanding the fact that I know how you feel about this, but I think it is a consideration that is going to have to be given some credence to.

Lechuguilla Cave is the world-renowned natural resource located near Carlsbad Caverns National Park, and it is formed from limestone and gypsum with many fractures and a very permeable bedrock. Over 60 miles of cave have been discovered so far, and yet this is estimated to be about only 5 percent of the total mass. Truly this is one of the most extraordinary caves that has ever been discovered and I think it is world class.

This particular area and geological formation also happens to be very rich in oil and gas production. The farther the cave extends, the greater the potential for conflict due to the dangers associated with hydrocarbon gases infiltrating Lechuguilla Cave and the Carlsbad Caverns. Hydrocarbon contamination of these internationally known natural wonders could pose a safety problem to researchers and visitors who may be in the caves at the time of release.

Rest assured that I too want to protect this natural resource as well as the researchers and the visitors in the caves. However, I do want to make sure that oil producers and their constitutional rights are protected. If an active lease is affected, we must provide them fair market value compensation for the taking of this lease or leases. I believe this should include the value at which the potential reserve is valued. Oil and gas producers spend millions of dollars developing the appropriate infrastructure, and many years of expertise are required before leases are acquired from the Federal Government. This has been an ongoing process for many, many years.

Absent the drilling of a well, the Interior Department, or anyone else for that matter, cannot give absolute assurance that drilling activity will not have an adverse effect on the cave resources. Therefore, we must continue to work toward developing a strategy that will deal with future conflicts, and there must be a reasonable solution which does not shut out the interests of the oil and gas producers. If 60 miles is just 5 percent of its total volume, we will not be able to manage, nor afford to keep, these producers from developing the reserves.

I believe the property rights of the lease owners must be protected, and this bill, in effect, will take their rights away. Therefore, I would like to explore a solution with the chairman which would prevent drilling in the proposed environmental impact state-

ment area identified by BLM while at the same time providing some form of compensation to the owners of these leases. It was January 28, 1991, when one of the owners of the lease, the Yates Energy Corporation, submitted an application to drill and was notified by BLM that the APD would not be approved within the normal 30 days, and 2 years later BLM had informed Yates that they were going to change their preferred alternative to a no drill recommendation.

Now, it is my understanding that BLM and Yates have agreed upon a value of \$18.7 million for the reserves and the Federal lease. I would like to submit this information for the record, and I am sure that you already have it, Mr. Chairman.

Mr. VENTO. Without objection, that will be made a part of the record. I would also ask that the letter of February 26th, the day after this agreement was signed, from the BLM, be made a part of the record, which advises the State Director to—

Mr. SKEEN. That is your prerogative.

Mr. VENTO. Well, I think it would be appropriate that they be put in the record together. Without objection.

[The BLM memorandum of February 26 follows:]



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

WASHINGTON, D.C. 20240

February 26, 1993



BY AIR/1 REFER TO

Memorandum

To: State Director, New Mexico

From: Acting Director

Subject: H.R. 698 Lechuquilla Cave Protection Act - Agreement of Value, Oil and Gas Leases NM - 62161 and 81894

Recently, during preparation for an upcoming hearing on this Act, we became aware of the referenced Agreement of Value. Upon a cursory review of this document I believe it would be appropriate to reopen the question of value regarding these resources.

Several actions continue which are pertinent to this question. First, the EIS on these resources has not been completed. Until the record of decision has been executed and become final there are many elements of a proper delineation of resource values that are yet to be determined.

Second, there is the proposed Act itself. One can only speculate regarding both the timing and content of this Act if it does become Law.

Given these factors I strongly believe that there is not a firm basis at this time for concurring on a value for the resources that may in some way be impacted. Accordingly, I wish that the matter of resource value be reopened so that all pertinent factors may be considered in the preparation of whatever value determinations may at some time be appropriate.

Please provide me with a proposed work plan for a thorough review of this project to be chaired by the Office of the Assistant Director for Energy and Mineral Resources. It should include milestones keyed to the completion of the EIS and the potential passage of H.R. 698 into law. Upon review and approval of this plan, a complete review will commence with a reexamination keyed to those resources that are eventually delineated as impacted and the manner in which they are impacted.

Please provide the proposed plan by 4/6/93. Questions should be directed to the Assistant Director for Energy and Mineral Resources.

Carson W. Culp, Jr.

cc: 101, 250, 140, Dombeck(LLM)

[The Yates Energy Corporation letter of February 26 and agreement of value between the BLM and Yates follow:]

MAR 01 1993



February 26, 1993

VIA FAX 202/225-1968

Congressman Bruce F. Vento
 2304 Rayburn House Office Building
 Washington, D. C. 20515-3102

Re: H. R. 698/Lechuguilla Cave Protection Act
 Dark Canyon Properties
 Eddy County, New Mexico

Dear Congressman Vento:

Yates Energy Corporation ("Yates") acquired an interest in 1,801.68 acres of United States of America Oil and Gas Leases and patented minerals. The United States of America Oil and Gas Leases ("Subject Land") involved, located within the proposed Lechuguilla Cave Protection Act area, are:

Township 24 South, Range 24 East, N.M.P.M.

| | |
|-------------------|--|
| Lease NM NM-62161 | Section 19: All Section 30: All containing 1,281.68 acres, more or less. |
| Lease NM NM-81894 | Section 20: NW/4NE/4, W/2NW/4, SW/4, NW/4SE/4 containing 320.00 acres, more or less. |

In our due diligence work prior to purchasing these properties, we examined a letter which had been reviewed and edited by Richard L. Manus, Area Manager for the Carlsbad Resource Area Headquarters for the Bureau Land Management (BLM), which contained certain assurances about developing the Subject Land. I also personally met with BLM engineering and cave resource personnel in Carlsbad to discuss drilling in this area, and as no known cave entrances were located on the Subject Land, drilling locations would adhere to the specific lease stipulations contained within said federal leases. Possible

Congressman Bruce F. Vento
H. R. 698
February 26, 1993

modifications in our drilling procedures were discussed, however it was never indicated by the BLM that drilling would not be allowed.

Based on these assurances from the BLM, Yates concluded it's purchase of an interest in said property and was appointed by the working interest owners to serve as Operator. Therefore, the reference herein to Yates shall represent all of the interest owners in the Subject Land.

In May 1990 Yates staked several proposed well locations in Sections 19 and 30 during a BLM field inspection, said locations were approved by the BLM Surface Protection field inspector. The Notice of Staking for these locations were filed, which resulted in a meeting with various BLM personnel from Roswell and Carlsbad wherein we discussed potential cave resources that might be encountered in drilling. Yates was preparing to drill our initial test well in the NW/4 of Section 20-24S-24E on patented surface and minerals, and the safeguards that would be used in drilling were discussed. Yates volunteered to provide the BLM with drilling information to allow them to evaluate the well.

This initial test well was commenced May 18, 1990 and drilled without encountering any unusual problems, no cave resources were encountered. The well is presently shut-in as a Delaware gas well, waiting on pipeline. The pipeline construction can not be economically justified until additional production has been established in the area. This well bolstered the geologic concept that substantial natural gas deposits exist under the Subject Land.

Based on the geologic information gained in drilling the first well, we selected a location in the SE/4 of Section 19 for our second test well. The location was in compliance with the lease stipulations and was approved by the BLM Surface Protection field representative. This location, while on federal minerals, is located on fee surface property. Cave resources, should they exist at this location, would be owned by the private surface owner. We have an agreement with said owner for access onto his property and to conduct drilling operations.

We submitted an Application to Drill ("APD") to the BLM for purposes of commencing drilling operations for its Diamondback Federal No. 1 Well to be located 2,007 feet FSL an 1,063 feet FEL Section 19. By letter dated February 6, 1991, Richard L. Manus,

Congressman Bruce F. Vento
E. R. 698
February 26, 1993

Area Manager for the Carlsbad Resource Area Headquarters, BLM, notified Yates that its APD "will not be approved within the normal 30 days and will be held pending until the cave matter is resolved in this area. No firm approval date can be given at this time".

Yates submitted a Request for State Director Review, Statement of Reasons and Brief to BLM State Office in Santa Fe, New Mexico, on February 28, 1991, requesting the State Director to overturn the Decision and direct the Area Manager to commence the notice period for Yates' APD and to thereafter approve the APD. By Decision dated April 5, 1991, the Deputy State Director of BLM upheld the Decision of the Carlsbad Resource Area delaying the processing of Yates' APD, but directed the Carlsbad Resource Area Manager to review the APD for completeness and by July 1, 1991, either (1) approve the application as submitted or with appropriate conditions of approval; or (2) disapprove the application with the reasons for disapproval. Thereafter, Yates agreed to extend the time in which BLM was required to make the decision on several occasions ultimately to October 31, 1991. However, by letter dated October 3, 1991, from the Area Manager of the Carlsbad Resource Area to Yates regarding a decision of the State Director of BLM to require the preparation of an environmental impact statement ("EIS") and that the EIS process would not be completed until March 1993. No action has been taken on Yates' APD as of this date either approving or denying the same.

The Subject Lands are adjacent to the Carlsbad Caverns National Park, administrated by the National Park Service ("NPS").

The filing of the APD resulted in some concern by NPS and some officials in BLM concerning the potential for an oil and gas well to intercept and/or cause damage to cave resources. As a result of those concerns, the BLM established a Cave and Karst Area Task Force in or about February or March 1991. This Task Force was divided into two groups, the Technical Work Group and the Oversight Committee. The Technical Work Group began meeting, but it was apparent by June 1991, that it would be unrealistic for the committee to have developed any information that would be unrealistic for the committee to have developed any information that would be valuable to BLM in making a decision with respect to the APD within the original time provided in the April 5, 1991 Decision. After the deadline for making a decision with respect

Congressman Bruce F. Vento
H. R. 698
February 26, 1993

to the APD was extended, the Technical Work Group continued to meet on a regular basis in an effort to develop methods of determining where cave and karst features are likely to occur and how they can be avoided and development of drilling programs that could be implemented to reduce and mitigate any damage that may result to a cave or karst feature as a result of drilling. Several experiments were conducted. The Cave and Karst Area Task Force met in the months of August and September, 1991, to discuss these matter and the draft of the Environmental Assessment that was developed by BLM.

The BLM and NPS, as the cooperating agency, prepared a Draft EIS which was released August 31, 1992. The EIS was subject to a public hearing held on October 22, 1992, and the comment period ran through November 20, 1992. Substantial concerns were raised both in the public comments as well as in the written comments to the draft EIS by NPS and various organizations that have interests in cave resources, wilderness areas, and areas of critical environmental concern.

Due to such express concerns, it has been indicated that the BLM will recommend a no drill alternative as their preference when the final EIS is published. The BLM has conducted an internal evaluation of the value of oil and gas resources in and under the Subject Land, and are continuing to conduct extensive studies to determine whether oil and gas activities will adversely affect Lechuguilla Cave or other cave resources.

The legislation that you have introduced in the House of Representatives, H. R. 698, calls for the protection of Lechuguilla Cave and specifically provides that no drilling or other activity shall be permitted if such activities could have an adverse effect on Lechuguilla Cave or any other cave resources. We feel that the essential issue that been omitted from H. R. 698 is the one of compensation of the owners of the property interests who must bear the burden to provide adequate assurance that Lechuguilla Cave will be absolutely protected. Absent the drilling of a well, neither the BLM nor anyone else can give such assurance that drilling activity will not have a potentially adverse affect on cave resources. For this reason, the lease owners' property rights have been effectively negated and taken away.

Congressman Bruce F. Vento
H. R. 698
February 26, 1993

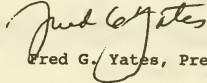
Therefore, I respectfully request that H. R. 698 be amended to specifically provide for compensation to the parties whose property interests are being taken.

For you information, Yates and BLM have entered into an Agreement of Value For Settlement Purposes, a copy of which is attached hereto, which sets forth the current fair market value of the oil and gas leasehold resources located in and under the Subject Land, in the event that no drilling activities are allowed.

Your assistance and attention in this critical issue is appreciated. Congressman Joe Skeen and John B. Gustavson of Gustavson Associates will be testifying on our behalf at the Sub-Committee hearing March 2nd on H. R. 698.

Yours very truly,

YATES ENERGY CORPORATION



Fred G. Yates, President

/srh
yec/goldnugget/Vento.Ltr

AGREEMENT OF VALUE FOR SETTLEMENT PURPOSES

THIS AGREEMENT OF VALUE FOR SETTLEMENT PURPOSES (hereinafter referred to as the "Agreement") is made and entered into this 25th day of February, 1993, by and among YATES ENERGY CORPORATION, individually and as operator of the oil and gas leases identified below (hereinafter referred to as "Operator"); and the BUREAU OF LAND MANAGEMENT (hereinafter referred to as the "BLM") an agency under the Department of the Interior of the United States of America.

RECITALS

A. Operator owns and operates the oil and gas leasehold estate and interest therein arising under the following United States of America Oil and Gas Leases:

(1) Lease NM NM-62161 covering the following described lands located in Eddy County, New Mexico

Township 24 South, Range 24 East, N.M.P.M.

Section 19: Lots 1,2,3,4, E1/2W1/2, E1/2 (All)

Section 30: Lots 1,2,3,4, E1/2W1/2, E1/2 (All)

containing 1,281.68 acres more or less.

(2) Lease NM NM-81894 covering the following described land in Eddy County, New Mexico:

Township 24 South, Range 24 East, N.M.P.M.

Section 20: NW1/4NE1/4, W1/2NW1/4, SW1/4, NW1/4SE1/4

containing 320 acres, more or less.

B. BLM conducted an internal evaluation of the value of oil and gas resources in and under the Subject Land. BLM prepared a report entitled "Opinion of Value" which is attached as Exhibit "A". Operator has also secured an independent appraisal of the oil and gas resources on the Subject land, which is attached as Exhibit "B".

C. Legislation has been introduced in the House of Representatives, H.R. 698, that calls for the protection of Lechugilla Cave and specifically provides that no drilling or other activity shall be permitted if such activities could have an adverse effect on Lechugilla Cave or any other cave resources. BLM is currently conducting extensive studies to determine whether oil and gas activities will adversely affect Lechugilla Cave or other cave resources.

D. Operator and BLM have agreed to enter into this Agreement for the purposes of setting forth the current fair market value of the oil and gas leasehold resources located in and under the Subject Lands if Congress or the Department determine that no drilling activities can occur.

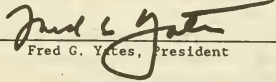
AGREEMENT

The parties hereto agree as follows:

1. Valuation of Oil and Gas Resources: Operator and BLM agree that the value of the oil and gas leasehold interest on, in and under and that may be produced from the Subject Lands is 18.7 million dollars as reflected in the independent appraisal attached hereto. BLM concludes that estimates of producible reserves and the valuation thereof as reported in the appraisal is acceptable and accurately values said resources.

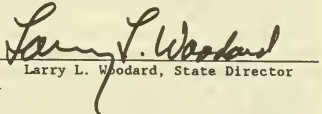
YATES ENERGY CORPORATION

BY


Fred G. Yates, President

BUREAU OF LAND MANAGEMENT

By


Larry L. Woodard, State Director

Mr. VENTO. I think we have to have full exploration of the whole gamut and the whole spectrum of this particular question.

It is appropriate to leave the decision of whether or not the oil and gas production will have an effect upon Lechuguilla to the Secretary of the Interior. However, in the Dark Canyon Area, which is the closest to the cave, we should prevent further oil and gas activity as long as we compensate the leaseholder, and I believe that we can and should do this legislatively.

Mr. SKEEN. Again, Mr. Chairman, I commend you for giving this issue the heightened awareness that it deserves and the attention that it deserves. You have obviously done your homework very well. And we have always enjoyed your visits to New Mexico and welcome you back. Even the oil and gas folks would be happy to see you.

Mr. VENTO. Thank you, Joe. I appreciate that invitation to a great State. And I appreciate your participation.

[The prepared statement of Mr. Skeen follows.]

TESTIMONY OF HON. JOE SKEEN

Mr. Chairman and members of the committee, I appreciate the opportunity to appear today to offer my thoughts and comments on the pending legislation to protect Lechuguilla Cave.

Lechuguilla Cave is a world renowned natural resource located near Carlsbad National Park, formed from limestone and gypsum with many fractures and a very permeable bedrock. Over 60 miles of cave have been discovered so far, and yet, this is estimated to be only 5 percent of its total mass. Mr. Chairman, I apologize for not being able to attend the sound and picture presentation here in the Morris K. Udall Room on Monday; however, I'm sure it was spectacular. Truly this is one of the most extraordinary caves ever discovered.

This particular area and geological formation also happens to be very rich in oil and gas production. The further this cave extends, the greater the potential for conflict due to the dangers associated with hydrocarbon gases infiltrating Lechuguilla Cave and the Carlsbad Caverns. Hydrocarbon contamination of these internationally known natural wonders could pose a safety problem to researchers and visitors who may be in the caves at the time of a leak.

Rest assured that I too want to protect this natural resource, as well as the researchers and visitors in the caves. However, I do want to make sure that oil producers and their constitutional rights are protected. If an active lease is affected, we must provide the fair market value compensation for the taking of their leases. I believe this should include the value at which the potential reserve is valued. Oil and gas producers spend millions of dollars developing the appropriate infrastructure, and many years of expertise are required before leases are acquired from the Federal Government.

Absent the drilling of a well, the Interior Department, or anyone else for that matter, cannot give absolute assurance that drilling activity will not have an adverse effect on the cave resources. Therefore, we must continue to work toward developing a strategy which will deal with future conflicts; it must be a reasonable solution which does not shut out the interest of the oil and gas producers. If 60 miles is just 5 percent of its total volume, we will not be able to manage nor afford to keep these producers from developing the reserves.

I believe the property rights of the lease owners must be protected and this bill in effect will take their rights away. Therefore, I would like to explore a solution with the chairman which would prevent drilling in the proposed environmental impact statement area identified by BLM, while at the same time providing some form of compensation to the owners of these leases.

It was January 28, 1991, when one of the owners of a lease (Yates Energy Corp.) submitted an application to drill (APD) and was notified by BLM that the APD would not be approved within the normal 30 days. Two years later BLM had informed Yates that they were going to change their preferred alternative to a no-drill recommendation. Now, it is my understanding that BLM and Yates have agreed upon a value of \$18.7 million for the reserves and the Federal lease. I would like to submit this information for the record.

It is appropriate that we leave the decision of whether or not oil and gas production will have an effect upon Lechuguilla to the Secretary of the Interior. However, in this dark canyon area which is the closest to the cave, we should prevent further oil and gas activity as long as we compensate the lease holders. I believe we can and should do this legislatively.

It is my belief that the Interior Department must conduct more studies to determine how often casing leaks occur and where the hydrocarbons end up. No data has been developed to show actual casing conditions in older wells, mines containing exposed gas, and possible explosive concentrations of natural gas. There seem to be far more unknowns in the equation than knowns.

Again, Mr. Chairman, I commend you for giving this issue the heightened awareness that it deserves. I look forward to working with you to protect this cave and provide adequate compensation to the oil and gas industry which is vital to sustain the current tax base in our rural communities.

Mr. VENTO. I want to just comment to my friend from New Mexico concerning this. I am pleased, first of all, to see his support for the protection of Lechuguilla Cave. Obviously, as the gentleman has pointed out, if, in fact, there is a curtailment of the leases, then there has to be a recognition of that. Of course, I think that the BLM is still in the process of going through what the preferred alternative would be in terms of the EIS, and what the impact will be. So we are trying to rely, or we will look to that at least as providing some direction and hopefully there will be agreement with the Park Service and the other interested groups in terms of the conclusion of that EIS.

You know, I would just point out to the gentleman that the leaseholder bought these leases from others most recently, after the discovery and recognition of the importance of Lechuguilla Cave for, obviously, a far different price than the recent appraisal numbers that have been thrown around.

But, in any case, the legislation that I have proposed only curtails drilling in the event that that adversely affects the resource. So we are still providing the opportunity for some judgment, albeit a sharper focus on the lease activities, the gas and oil activities that might occur there.

Further, if there should be any taking under the Constitution that requires compensation. That is not a matter that anyone disagrees with. But it has not been determined that a taking has occurred or will occur. Further, it is not constitutional for Congress to attempt to establish the required level of compensation. So we can't even do that.

So all of this is really subject to interpretation and to a judicial process in the event that there isn't agreement as to what the value might be. So I think the gentleman has suggested that he wants to work with me as we go through this process. This area is in the district he represents. He has an active interest in it, and I certainly want to work with you and come to an agreement.

I think the common goal is, of course, the protection of the resource, and I think as long as we keep that in mind, there may be different ways and alternatives to accomplish that. We don't want to curtail any activity unless it really makes sense. But, on the other hand, we don't want to put the resource at risk. That is the concern that I have in this, and I don't think, considering the nature of this world-class resource, that we should do that. We should really avoid it.

I am not satisfied that the present policy path that has occurred to date would in fact avoid that risk. That is the reason that I have introduced the legislation. So I am not satisfied with the present policy path that is being followed. It seems to me that there are some risks.

Now, maybe the EIS will come forward and BLM will adopt a no-drill alternative. But it seems to me that the information that has been gathered in recent months and in the last years has in fact pointed strongly in that particular direction.

So, with that said let me yield to the gentleman to see if he has any comments or reaction to my comments.

Mr. SKEEN. I certainly do, Mr. Chairman. I appreciate the comity with which you approach this thing. But let me remind you that there are two world-class resources involved here. This is not a small matter and one in which we have just all of a sudden discovered that we have got two coexisting world-class resources: the cave is one, the natural resources, the oil and gas production is there. The oil and gas production—it is unfortunate that they are coexistent, but this is one of the world-class areas of production for oil and gas. It has been historically since the early 1900s.

And these leases were existent. Whoever they bought them from, and this trading goes on between producers of oil and gas in that part of the country historically, and the Yates operations have been well-known and well-documented for many, many years. They have been leaseholders for quite some time. They have been producers. In addition to that, they have been great investors in infrastructure. You don't just walk into an oilfield and develop it overnight, or in this case that you have heard that there is a cave there that might provide some kind of an opportunity to make a quick buck. That is not the idea at all.

As a matter of fact, this same production company has extensive oil and gas, or oil lines—pipelines investment, and has had extensive drilling in that area, and production in the area that is under discussion. And I think that you have appraisers available to you and you will have them, I understand, testifying before you this morning as to the values inherent in this operation.

All I am saying is you have got a situation here where you have rights of the oil and gas producers to the value of the produce, or to the product that they have been delivering in good faith, operating in good faith on good faith leases and all the rest of it, and something should be done about the compensation if you are going to shut it down in a no-drill situation.

You have indicated that you are open-minded about this, and I appreciate that. But then we ought to examine all facets of this particular question and the arguments.

Mr. VENTO. Well, we are going to hear that this morning. I think that oil and gas occurs in a number of areas on the face of the Earth. As far as we know, there is only one Lechuguilla Cave. I think that is the concern we have in terms of the nature of this.

Mr. SKEEN. I understand that, too, Mr. Chairman. Oil and gas, it is produced in a lot of places in the world, but this is also one of the few places in the United States that has tremendous potential and it has proven great reserves, and therein lies the problem.

Mr. VENTO. Yes. I think one of the problems, it seems to me, is that as Lechuguilla Cave has taken on more importance these leases for oil and gas have dramatically increased in value, and so I am very concerned that we don't—

Mr. SKEEN. I don't think they have increased in value, Mr. Chairman. The value is inherent and has been there for some time, and it is not an increase in the value just because you found the cave, that cave has been located there.

Mr. VENTO. Well, that is my judgment.

Mr. SKEEN. I think that is a misconception.

Mr. VENTO. I would certainly not agree with that.

Mr. SKEEN. Well, I would certainly not disagree with it.

Mr. VENTO. Well, I would agree that they don't increase in value just because the cave is there.

So, in any case, are there other questions of our colleague here? Congressman Thomas.

Mr. THOMAS. Thank you, Mr. Chairman.

Joe, as I understand it, there is surrounding this particular cave dedication some 5,000 acres to be withdrawn.

Mr. SKEEN. That is my understanding as well.

Mr. THOMAS. And then a proposition to manage the adjoining acres. I don't quite understand. Do you have a feel for the amount of land that would be affected then by the cave's development?

Mr. SKEEN. Well, I think that historically speaking that is the kind of situation in which we talk about buffer zones, and I am assuming that is what you mean. Anytime we have a natural wonder such as this cave or any other park area, and so forth, it has been our policy in Congress or been the attitude of Congress that we need to protect it with buffer zones, and I have a great—I get a great deal of anxiety when I see this taking place.

The most vulnerable part of the entire country is the 13 Western States that are public land States because they are open to the acquisition of more buffer zones for everything that comes down the pike. So I think that as finally we stop and take a look at also the other inherent resource values and the operations that have been going on in good faith and not denigrate them or derogate them.

Mr. THOMAS. I share that concern. Often it is not the facility that is being protected, but it is the management surrounding lands, I think. And the language is to be managed in a way that does not affect the cave in an undefined area.

Mr. SKEEN. What does that mean?

Mr. THOMAS. I don't know the answer to that.

Mr. SKEEN. I don't either.

Mr. THOMAS. Thank you.

Mr. VENTO. Does the gentleman have any questions? I would just point out that when you look at the value here these particular leases were initially leased on a noncompetitive basis for a dollar an acre, and that is what the public has got back today.

Mr. SKEEN. Mr. Chairman, that is not unusual either.

Mr. VENTO. No, I know.

Mr. SKEEN. In the interim we have also now improved production on those areas, and you are going to have to deal with it, that the leases are no longer worth just a dollar.

Mr. VENTO. No. I understand. And the initial leaseholders—

Mr. THOMAS. Would the gentleman yield?

Mr. VENTO. Just a minute. The initial leaseholders then who gain that noncompetitive right—as you said, it is not unusual that they trade this off to another company which bought them for \$200,000, I believe, in the late 1980s, and now, of course, we get values estimated at \$20 million. But there has been work and effort put into it to try and establish that, I guess.

I would yield to the gentleman.

Mr. THOMAS. Did I understand the gentleman to say that all the public gets out of mineral leases is \$1 an acre?

Mr. VENTO. What we got out of these to date is \$1 an acre.

Mr. THOMAS. No royalties on production?

Mr. VENTO. Well, there is no production yet. I mean that is my point. There is no production that is taking place.

Mr. SKEEN. There is some production.

Mr. VENTO. Not on this particular—not in the areas we are talking about here.

Mr. SKEEN. There is production in that area, Mr. Chairman, I believe. And I think that the appraisers that you are going to have, or people who have done appraisals will address that.

Mr. VENTO. But the areas that we are talking about here in terms of the acres that specifically are in contention, there is no drilling that has occurred there. So we don't even know if there is any—going to ever be anything discovered there.

Mr. SKEEN. Well, I may be mistaken, but then I understand that there has been some drilling—

Mr. VENTO. Well, there has been drilling on some other leases, but I mean not necessarily on the ones we are talking about here.

Mr. SKEEN [continuing]. And within the area that we are discussing about the 5,000 acres.

The other thing, too, Mr. Chairman, is the Federal Mineral Leasing Act of the Federal Government is very anxious to lease these lands. That is why they have those lotteries. They draw the—

Mr. VENTO. Well.

Mr. SKEEN. And they also get 50 percent of the proceeds.

Mr. VENTO. Well, I think that is right. The question is how we should proceed. But I think the concern that we have is that obviously the value of these is greatly increased is what my point is.

Mr. SKEEN. Because of production, Mr. Chairman.

Mr. VENTO. Well, this is somewhat on a speculative basis here, and there is some conjecture that is involved in terms of what the value is here. Very often as the areas are more important to the public from the conservation standpoint, I fear—

Mr. SKEEN. Well, I understand that, Mr. Chairman.

Mr. VENTO [continuing]. That the increase in value is tantamount to leveraging the public to pay a lot more. I suspect that the Solicitor at the new Justice Department under Janet Reno will have something to say about this issue. I would hope that we wouldn't follow the pattern of the past decade of passiveness.

Mr. SKEEN. I would be very interested in hearing that. Mr. Chairman, the value of those leases goes up not because of the discovery of a cave or something. It is from production. That is historic.

Mr. VENTO. I wouldn't want to be held up on that basis. That is right.

Well, I understand the gentleman, and obviously we don't intend to in any sense of the word take anything from anyone. But we are interested—

Mr. SKEEN. Let's hope not.

Mr. VENTO. I mean fair compensation is required whatever the solution is. But on the other hand, we are not interested in over-compensating and rewarding this sort of activity. That is the concern that obviously this member has, and that I have in terms of protecting the public interest.

Mr. SKEEN. I share that same concern, and I just—true value, real value based on prudent—

Mr. VENTO. Yes. Well, you know, the thing is I know whose side I am on in terms of this particular issue.

Mr. SKEEN. Well, I am on both sides, Mr. Chairman.

Mr. VENTO. Yes. Well, you know, I am not here to give aid and comfort to those that are interested in leveraging more dollars out of this than what the value is and/or with the threat of damaging the resource as the quid pro quo.

Mr. SKEEN. I don't think you are here to abridge their rights either, Mr. Chairman. Knowing you as well as I do, I am sure that you are very interested in taking care of their rights—protecting their rights.

Mr. VENTO. Yes. Well, we appreciate the gentleman's testimony. We look forward to ongoing discussion on this issue.

Mr. SKEEN. Well, I am sure we will have, and I thank you very much, Mr. Chairman.

Mr. VENTO. Thank you.

Mr. SKEEN. I have an Intelligence Committee meeting too.

Mr. VENTO. Yes. Okay. Thank you.

STATEMENTS OF HILLARY A. ODEN, ASSISTANT DIRECTOR, ENERGY AND MINERALS RESOURCES, BUREAU OF LAND MANAGEMENT, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY JOE INCARDINE, GEOLOGIST; AND DENNIS FENN, PH.D., DEPUTY ASSOCIATE DIRECTOR, NATURAL RESOURCES, NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR, ACCOMPANIED BY RONAL KERBO, CAVE MANAGEMENT SPECIALIST, AND HARVEY DUCHENE, PRIVATE SECTOR PETROLEUM GEOLOGIST

Mr. VENTO. I am pleased to welcome Hillary Oden, the Assistant Director of Energy and Natural Resources, Bureau of Land Management, Department of Interior.

He is accompanied by Dr. Dennis Fenn, the Deputy Associate Director for Natural Resources from the National Park Service, Department of Interior.

Gentlemen, your statements have been made part of the record, and you can proceed, Mr. Oden, to summarize or to read the relevant portions. I notice that Dr. Fenn is accompanied by a number of other assistants. Mr. Oden, you perhaps are as well, so you might want to introduce them as you introduce your testimony. Please proceed.

STATEMENT OF HILLARY A. ODEN

Mr. ODEN. Thank you, Mr. Chairman.

I would like to introduce Mr. Joe Incardine, behind me. He is with the BLM office in Santa Fe, New Mexico, and has been the project leader for the Dark Canyon EIS on this subject.

Mr. VENTO. Yes. I see him in the plaid shirt behind you, so he is noted. And the others are all assistants to the Park Service witness, Dr. Fenn, and he will introduce them when he introduces his testimony.

Please proceed with your testimony, Mr. Oden.

Mr. ODEN. I appreciate the opportunity to appear here today on H.R. 698, the Lechuguilla Cave Protection Act. This bill is designed to protect the Lechuguilla Cave in New Mexico. Lechuguilla Cave is a nationally significant resource and unquestionably deserves top priority protection of its values. I won't comment on its wonders as the following people will do a much better job of that than I.

The administration supports the concept of the bill. However, we urge the Congress to delay consideration of protective legislation until the final Dark Canyon EIS—Environmental Impact Statement—now being developed is completed, hopefully in the late spring of 1993.

The Bureau of Land Management will not allow any new leases or new drilling in the EIS area, and has already suspended the lease upon which drilling was proposed, at least until completion of the EIS process and a final decision is made. We will be considering the National Park Service initiated study, "Report of the Guadalupe Geology Panel to the National Park Service," as part of our EIS process and as part of the decision as to whether to allow further drilling or other oil and gas activities in the area. The Secretary of the Interior will review this issue, and we would be pleased to consult with this subcommittee before a final decision is made. Here I might mention that the Guadalupe report recommends a protective area that includes lands that are outside of, not only H.R. 698, but also the larger EIS area.

Section 2 of H.R. 698 would withdraw, subject to valid existing rights, 5100 acres from all forms of appropriation under public land laws and the operation of the mineral leasing and geothermal leasing laws. Section 3 would direct the Secretary of Interior not to permit the holder of any mineral lease affecting lands withdrawn by section 2 or any adjacent public lands in New Mexico that are managed pursuant to section 603 of FLPMA, to carry out any drilling or other activities on such lands that could have any adverse effect on Lechuguilla Cave or any other cave resources located within Carlsbad Caverns National Park.

The 5100 acres in H.R. 698 includes the Dark Canyon Special Management Area established by the BLM Carlsbad Resources Management Plan of 1988. In 1990, a management plan specific to the Dark Canyon Area was approved, designating an area of critical environmental concern (ACEC) which includes a portion of the Mudgetts Wilderness Study Area and a scenic area. The scenic area and the ACEC are approximately 5100 acres, and these areas, as outlined in the approved management plan, coincide with the protection area outlined in H.R. 698. These areas were established for protection of the high visual and natural resource values and

rare plant species, including the values of the six caves within that area. I might mention here that BLM manages over 900 caves throughout the Western U.S. However, unfortunately, none are as spectacular as Lechuguilla.

As mentioned above, the BLM has been engaged in protecting and a continuing effort to protect the natural and scenic values in the Carlsbad area. There are about 100,000 acres of public lands containing caves in the Carlsbad area. Detailed drilling guidelines to protect cave resources are applied by the BLM to the many oil and gas operations in the area.

Recently, in September of 1991, due to our concern for Lechuguilla Cave and other values, BLM determined it was necessary to prepare an EIS, with the National Park Service as a co-operating agency, on an Application for Permit to Drill that had been proposed in January of 1991, approximately 1½ to 2 miles from Lechuguilla Cave on a Federal oil and gas lease. The EIS is being prepared to ensure that no adverse impacts to cave resources occur.

The EIS covers a study area of approximately 8320 acres, including the Dark Canyon SMA. The draft EIS was released to the public for comment in September of 1992 with the comment period running to November 20 of 1992. The preferred alternative in the draft EIS was to approve the APD after moving the location 500 feet to avoid the potential for a cave, and apply enhanced precautionary measures for the well operations, including a site specific lineament study before drilling. Other alternatives looked at included a no action alternative, which would deny the APD and any future drilling within the EIS area, and a directional drilling alternative. We received more than 500 letters commenting on the draft EIS. The majority of these comments advocated cessation of all drilling.

After reviewing the comments and analyzing the recommendations of the National Park Service Guadalupe Geology Panel and the Cave and Karst Task Force Oversight Technical Group, the BLM plans to publish a final EIS in the late spring of 1993. The Cave and Karst Task force, which includes representatives from the National Park Service, United States Geological Survey, Forest Service, BLM, oil and gas industry, State of New Mexico Oil Conservation Division, Bureau of Mines and Mineral Resources, consultants, and volunteers, has been invaluable to us. The following cave detection studies have been coordinated and reviewed by the task force: lineament fault and fractures study; geophysical natural potential study; and a helium gas study.

Currently, with the 5100-acre proposed withdrawal, there are four oil and gas leases totaling 2080 acres that have stipulations which prohibit surface occupancy. Some 730 acres within the Wilderness Study Area are unleased. As to the remainder of the proposed withdrawal area, there are two producing gas wells within 2 miles of Lechuguilla Cave and portions of three leases held by production. There have been estimates of 30 billion cubic feet of gas or more reserves in this area and the value of the leases involved may exceed \$20 million.

In connection with your statement, the information about the agreement of value, I received a copy of this on February 26, Fri-

day, and it was agreed to by the state Director and Yates Energy Corporation on February 25th. It indicates that the fair market value of two leases, about 1600 acres, was \$18.7 million. The Acting Director of BLM on February 26 responded to this agreement advising the State Director that we felt that it was a little premature and that the value of the resources involved should be reviewed after the decision reached in the EIS and/or upon passage of H.R. 698.

We agree with you, Mr. Chairman, that it is somewhat premature to speculate on the effect of any current fair market value until the EIS process is completed and we determine what restrictions may be placed on exactly what lands in what fashion before we start talking about possible takings and fair market value.

Section 3 of the bill bans drilling or other activities on existing oil and gas leases that could have any adverse effects on Lechuguilla Cave or any other cave resources. The combination of qualifying words such as "could," "any," and "any other cave resources," which, perhaps, may include caves discovered in the future, may lead to the conclusion that the Secretary of the Interior must ban drilling activities or even producing or reworking activities on the two existing wells in the area. This could, of course, constitute a taking under the Constitution for which the Federal Government could be liable. We would suggest that if it is the intent of Congress not to allow any oil and gas activities in the area that should be clearly stated in the bill.

Also in my testimony I have reference to a couple of places in the bill where the geothermal leasing laws are mentioned separately. That should be looked at, and we would also recommend additional language be added to authorize the Secretary to control access to BLM managed lands in the area and prohibit all forms of mineral and geological cave resource collection, except under permit for scientific purposes. The language, we believe, would be most helpful if another entrance to Lechuguilla Cave is found on BLM managed lands, or if an entrance is discovered to another cave associated with the same formations.

We would be happy to work with the committee in drafting appropriate language. This concludes my statement.

Mr. VENTO. I appreciate you seeking to strengthen my legislation. We appreciate very much that, and we will get back with a question or two in a moment.

[The prepared statement of Mr. Oden follows:]

STATEMENT OF HILLARY A. ODEN, ASSISTANT DIRECTOR, ENERGY AND MINERALS RESOURCES, BUREAU OF LAND MANAGEMENT, UNITED STATES DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON NATIONAL PARKS AND PUBLIC LANDS, COMMITTEE ON NATURAL RESOURCES, HOUSE OF REPRESENTATIVES, ON H.R. 698, THE "LECHUGUILLA CAVE PROTECTION ACT OF 1993."

I appreciate the opportunity to appear here today to give you our views on H.R. 698, the "Lechuguilla Cave Protection Act." This bill is designed to protect the recently discovered Lechuguilla Cave in New Mexico. The Lechuguilla Cave is a nationally significant resource and unquestionably deserves top-priority protection of its values.

The Administration supports the concept of the bill. However, for reasons I will discuss, we urge the Congress to delay consideration of protective legislation until the final Dark Canyon Environmental Impact Statement (EIS), now being developed, is completed by the late spring of 1993. The Bureau of Land Management (BLM) will not allow any new leases or new drilling and has already suspended the existing leases at least until the completion of the EIS process and a final decision is made. We will soon be considering the National Park Service (NPS) study, "Report of the Guadalupe Geology Panel to the National Park Service", as part of our EIS process and as part of the decision as to whether to allow further drilling and other oil and gas activities in the area. The Secretary of the Interior will review this issue and we would be pleased to consult with this subcommittee before a final decision is made.

Section 2 of H.R. 698 would withdraw, subject to valid existing rights, 5,100 acres in Eddy County, New Mexico, from all forms of appropriation under the public land laws (including the mining laws) and the operation of the mineral leasing and geothermal leasing laws. Section 3 would direct the Secretary of the Interior not to permit the holder of any mineral lease affecting lands withdrawn by section 2 or any adjacent public lands in New Mexico that are managed pursuant to section 603 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782) to carry out any drilling or other activities on such lands that could have any adverse effects on Lechuguilla Cave or any other cave resources located within Carlsbad Caverns National Park or within the lands withdrawn by section 2.

The 5,100 acres in H.R. 698 is a portion of the Dark Canyon Special Management Area (SMA) established by the BLM Carlsbad Resources Management Plan (RMP) of 1988. In 1990, a management plan specific to the Dark Canyon area was approved, designating an Area of Critical Environmental Concern (ACEC) which includes a portion of the Mudgetts Wilderness Study Area (WSA) and a scenic area. The scenic area and the ACEC are approximately 5,100 acres and these areas, as outlined in the approved management plan, coincide with the protection area outlined in H.R. 698. These areas were established for protection of the high visual and natural resource values and rare plant species.

As mentioned above, the BLM has had a continuing effort to protect the various natural and scenic values in the Carlsbad area. There are about 100,000 acres of public land containing caves in the Carlsbad area. Detailed drilling guidelines, to protect cave resources, are applied by the BLM to the many oil and gas operations in the Carlsbad area.

Recently, due to our concern for Lechuguilla Cave and other values, the BLM determined it was necessary to prepare an EIS, with the NPS as a cooperating agency, on an Application for Permit to Drill (APD) that had been proposed approximately 1 1/2 to 2 miles from the Lechuguilla Cave on a Federal oil and gas lease. The EIS is being prepared to ensure that no adverse impacts occur. The EIS covers a study area of approximately 8,320 acres, called the Dark Canyon SMA. The draft EIS was released to the public for comment on September 18, 1992, with the comment period running to November 20, 1992. The preferred alternative in the draft EIS was to approve the APD after moving the location 500 feet to avoid the potential for a cave, and apply enhanced precautionary measures for the well operations, including a site specific lineament study before drilling. Other alternatives included a "no action alternative", which would deny the APD and any future drilling within the EIS area, and a directional drilling alternative.

More than 500 letters commenting on the draft EIS were received. The vast majority of these comments advocated cessation of all drilling.

After reviewing the comments and receiving the recommendations of the NPS Guadalupe Geology Panel and the Cave and Karst Task Force Oversight Technical Work Group, the BLM plans to publish a final EIS in the late spring of 1993. The Cave and Karst Task Force, which includes representatives from the NPS, United States Geological Survey (USGS), United States Forest Service (USFS), BLM, oil and gas industry, State of New Mexico Oil Conservation Division, New Mexico Bureau of Mines and Mineral Resources, consultants, and volunteers, has been invaluable. The following cave detection studies have been coordinated and reviewed by the Task Force:

- 1) A lineament fault and fractures study;
- 2) a geophysical natural potential study; and
- 3) a helium gas study.

Currently, within the 5,100-acre proposed withdrawal, there are four oil and gas leases totalling 2,080 acres that have stipulations which prohibit surface occupancy. Some 730 acres within the Mudgetts Wilderness Study Area are unleased. As to the remainder of the proposed withdrawal area, there are two

producing gas wells within two miles of Lechuguilla Cave and portions of three leases held by production. There have been estimates of 30 billion cubic feet (BCF) or more of natural gas reserves in this area and the value of the leases involved may exceed \$20 million.

We have comments on specific provisions in H.R. 698.

Section 3 bans drilling or other activities on existing oil and gas leases "that could have any adverse effects on Lechuguilla Cave or any other cave resources . . ." The combination of qualifying words such as "could", "any", and "any other cave resources", which perhaps may include caves discovered in the future, may lead to the conclusion that the Secretary of the Interior must ban drilling activities or even producing or re-working activities on the two existing wells in the area. This could constitute a "taking" under the Constitution for which the Federal Government could be liable. If it is the intent of Congress not to allow any oil and gas activities in the area, that should be clearly stated.

Also, the reference to existing leases in section 3 does not explicitly include geothermal leases. Since "geothermal leasing laws" are mentioned separately in section 2(a) as if distinct from mineral leasing laws, it is unclear whether the restrictions

on drilling set forth in section 3 are also meant to apply to geothermal leases. However, there does not appear to be any potential for geothermal resources or locatable or other leasable minerals in the area.

We also recommend additional language be added to authorize the Secretary to control access to BLM managed lands and prohibit all forms of mineral/geological and cave resource collection, except under permit for scientific purposes. This language would be most helpful if another entrance to Lechuguilla Cave is found on BLM managed land, or if an entrance is discovered to another cave associated with the same karst formations. We will be happy to work with the Committee in drafting appropriate language.

This concludes my statement. I will be happy to answer questions.

Mr. VENTO. We are pleased to welcome Dr. Dennis Fenn. Dr. Fenn, would you please introduce your associates?

STATEMENT OF DR. DENNIS FENN

Dr. FENN. Thank you, Mr. Chairman. Immediately to my left is Mr. Ronal Kerbo, who is a cave management specialist from the National Park Service, and to his left is Mr. Harvey Duchene, who is a private sector petroleum geologist. Both of these gentlemen are here to answer any technical questions that the committee might have and to support the testimony that we are giving this morning.

Mr. VENTO. Please proceed with your testimony, Dr. Fenn. I am pleased to see Ron Kerbo, who, I am reminded, brought me through Carlsbad Caverns without any problems on my way out.

Dr. FENN. Those are always good cave guides that can bring you back home once they get you in a cave.

Mr. VENTO. This is your first effort, I guess, to appear before the committee, so we are especially appreciative, Dr. Fenn, of your appearance here today.

Dr. FENN. Thank you, Mr. Chairman. We appreciate the opportunity to appear before you today and provide testimony on H.R. 698, a bill that, if enacted, would provide certain protections for Lechuguilla Cave and other cave resources in Carlsbad Caverns National Park in southeastern New Mexico.

We recommend that the committee withhold action on H.R. 698 until actions currently underway within the Department of Interior have had an opportunity to be reviewed and agreed to.

Mr. Chairman, we support and applaud the basic concept of H.R. 698; that is, to provide protection for the highly significant resources of Lechuguilla Cave and adjacent cave resources both within Carlsbad Caverns National Park and the adjacent lands under the administration of the Bureau of Land Management.

The National Park Service with the assistance of many groups and individuals is only beginning to discover and understand the marvels of this world-class cave. Currently, Lechuguilla Cave is the deepest known cave in the United States at almost 1600 feet, and the eighth longest in the world with over 60 miles of surveyed passages to date. While the cave's entrance has been known since 1914, it was long thought to be a small cave of relatively little significance, although early explorers had noticed air issuing from between rocks on the cave floor. However, in 1986, as the result of a 2-year period of episodic removal of floor fill, a major breakthrough occurred, and the cave is now known world wide for its remarkable resources.

The geology, minerals and fauna of Lechuguilla Cave are indeed remarkable. The cave contains previously unknown speleothem types, such as underwater helictites; the largest known gypsum, or selenite, stalactites in the world; potentially new microbiological species; and one of the most outstanding in-cave exposures of ancient geological reef complex in the world.

The speleothems include not only the underwater helictites and the 20-foot-long gypsum (selenite) chandeliers, but millions of hydromagnesite balloons; thin hair strands of gypsum 20 feet long; calcite raft cones of unusual size and number; and outstanding examples of almost every known type of calcite and gypsum feature.

Rare chemosynthetic bacteria and obligate fungi, which derive energy from gypsum, sulfur, magnesium and iron, and which are believed to have a role in speleogenesis, have been found in Lechuguilla Cave.

In October 1990 the National Park Service and BLM became concerned for the well-being of Lechuguilla Cave as a result of the request to drill for oil and gas on BLM lands not far from the then known location of the cave. This concern resulted in the BLM forming a Cave and Karst Drilling Task Force that later recommended mitigation measures. Subsequently, the BLM prepared a draft environmental impact statement on the impacts from reasonable foreseeable development of oil and gas resources within Dark Canyon. The draft EIS was completed and sent out for comment in September 1992. These comments have been received and are being reviewed and incorporated into the EIS as appropriate. We recommend that Congress take no action on H.R. 698 until the EIS is finalized and a record of decision is signed.

The caves of the Capitan Reef are generally thought to have been created by the dissolution of the reef's carbonate rocks by acidic groundwater. This dissolution can occur along an adjacent to bedding planes, joints or fractures, and faults in the rock. A major concern in this matter is that gas well development in the area might result in leakage that could travel through the fractures and spaces between the bedding planes to contaminate Lechuguilla Cave. Additionally, there may be a potential for direct impact to the cave from drilling, because current technology lacks an effective method to identify or predict cave passageways with any degree of certainty.

In January of this year the Southwest Regional Director of the National Park Service notified the BLM State Director that he was at that time assembling a panel of well-respected and independent geologists who have extensive knowledge of the geology, cavern development, and karstic features in and around Carlsbad Caverns National Park. The panel's charge was to evaluate the area surrounding the park's two principal caves that would need to be excluded from drilling and other mineral exploration to assure the protection for Carlsbad Caverns and Lechuguilla Cave. The panel's report has only recently been submitted to us for review. Therefore, we are not in a position at this time to make recommendations based on that report. We expect that review of the panel's report might be complete within 30 days. Furthermore, BLM is committed to taking the report into consideration in the preparation of the final EIS.

It would be important to point out, also, that the draft EIS, as currently constituted, focuses on future drilling and related activities. We are also concerned with the potential for adverse impact that might accompany existing activities, a concern that is also addressed in section 3 of H.R. 698. Our recommendations later will address section 3.

Only a small portion of the entire Lechuguilla Cave system has been discovered to date. Studies that include airflow analyses to determine potential volume and size of the cave system have provided some clues as to the actual size. However, these studies have

not as yet resulted in a clear determination of where the rest of the cave is located.

Preliminary data resulting from the panel's evaluation suggest an area of potential risk substantially larger than the 5100 acres proposed for withdrawal in H.R. 698, and indeed the BLM EIS considers considerably more acreage. The possible size of the Lechuguilla Cave system and the probability that Lechuguilla Cave extends beyond the current boundaries of the national park suggest that we need to consider a larger withdrawal area. We are not prepared at this time, however, to make specific recommendations in this regard on H.R. 698.

Worldwide attention is focused on the wonders of Lechuguilla Cave and Carlsbad Caverns. The concerns expressed over the request to drill for oil and gas in the area immediately north of Lechuguilla Cave are being addressed through the EIS process now underway. We commend your efforts to afford a degree of protection for this cave resource and look forward to working with BLM, this committee, and others in Congress to arrive at a solution that fully provides for the protection of Lechuguilla Cave and related cave systems in the project area.

Mr. Chairman, this concludes our remarks and we are now prepared to answer your questions at this time.

[The statement of Dr. Fenn follows:]

STATEMENT OF DR. DENNIS FENN, DEPUTY ASSOCIATE DIRECTOR, NATURAL RESOURCES, NATIONAL PARK SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE SUBCOMMITTEE ON NATIONAL PARKS, FORESTS, AND PUBLIC LANDS OF THE HOUSE COMMITTEE ON NATURAL RESOURCES, CONCERNING H.R. 698, A BILL TO PROTECT LECHUGUILLA CAVE AND OTHER RESOURCES AND VALUES IN AND ADJACENT TO CARLSBAD CAVERNS NATIONAL PARK, NEW MEXICO.

March 2, 1993

Mr. Chairman, I appreciate the opportunity to appear before you today to provide testimony on H.R. 698, a bill that, if enacted, would provide certain protections for Lechuguilla Cave and other cave resources in Carlsbad Caverns National Park in southeastern New Mexico.

We recommend that the Committee withhold action on H.R. 698 until actions currently underway within the Department of the Interior have had an opportunity to be reviewed and agreed to.

H.R. 698, if enacted, would withdraw, subject to valid and existing rights, approximately 5,100 acres in Eddy County, New Mexico, known as the "Dark Canyon Cave Protection Area," from all forms of appropriation under the public lands laws (including the mining laws) and from the operation of the mineral leasing and geothermal leasing laws. Copies of maps depicting this area and legal descriptions are to be available for public inspection in the offices of the Bureau of Land Management. The withdrawn lands are to be managed by the Secretary of the Interior acting through the Bureau of Land Management pursuant to the Federal Land Policy and Management Act of 1976 (FLPMA) and other applicable provisions of law.

H.R. 698 would not permit the holder of any mineral lease affecting lands within the withdrawn area or any adjacent public lands in New Mexico managed pursuant to section 603 of the FLPMA to undertake any drilling or other activities on these lands that could have any adverse effects on Lechuguilla Cave or other cave resources located within Carlsbad Caverns National Park.

Mr. Chairman, we support and applaud the basic concept of H.R. 698, to provide protection for the highly significant resources of Lechuguilla Cave and adjacent cave resources, both within Carlsbad Caverns National Park and the adjacent lands under the administration of the Bureau of Land Management (BLM).

The National Park Service, with the assistance of many groups and individuals, is only beginning to discover and understand the marvels of this world-class cave. Currently, Lechuguilla Cave is the deepest known cave in the United States (about 1,600 feet) and the eighth longest in the world (over 60 miles of surveyed passages to date). The cave's entrance has been known since 1914; it was long thought to be a small cave of relatively little significance, although early explorers had noticed air issuing from between rocks on the cave floor. However, in 1986, as the result of a 2-year period of episodic removal of floor fill, a major breakthrough occurred, and the cave is now known world wide for its remarkable resources.

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In October 1990 the National Park Service and BLM became concerned for the well-being of Lechuguilla Cave as a result of a request to drill for oil and gas on BLM lands not far from the then-known location of the cave. This concern resulted in the BLM forming a Cave and Karst Drilling Task Force that later recommended mitigation measures. Subsequently, BLM prepared a draft environmental impact statement (EIS) on the impacts from reasonable foreseeable development of oil and gas resources within Dark Canyon. The draft EIS was completed and sent out for comment in September 1992. Those comments have been received and are being reviewed and incorporated into the EIS as appropriate. We recommend that Congress take no action on H.R. 698 until the EIS is finalized and a record of decision is signed.

The caves of the Capitan Reef are generally thought to have been created by the dissolution of the reef's carbonate rocks by acidic groundwater. This dissolution can occur along and adjacent to bedding planes, joints (fractures), and faults in the rock. A major concern in this matter is that gas well development in the area might result in leakage that could travel through the fractures and spaces between the bedding planes to contaminate Lechuguilla Cave. Additionally, there may be a potential for direct impact to the cave from drilling, because current technology lacks an effective method to identify or predict cave passageways with any degree of certainty.

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review. Therefore we are not in a position at this time to make recommendations based on that report. We expect that review of the panel's report might be complete within 30 days. Further, BLM is committed to taking the report into consideration in the preparation of the final EIS.

It would be important to point out, also, that the draft EIS, as currently constituted, focuses on future drilling and related activities. We are also concerned with the potential for adverse impact that might accompany existing activities, a concern that is also addressed in section 3 of H.R. 698. Our recommendations will address section 3.

Only a portion of the entire Lechuguilla Cave system has been discovered to date. Studies that include air flow analyses to determine potential volume and size of the cave system have provided some clues as to actual size. However, these studies have not as yet resulted in a clear determination of where the rest of the cave is located.

Preliminary data resulting from the panel's evaluation suggest an area of potential risk substantially larger than the 5,100 acres proposed for withdrawal in H.R. 698, and indeed the BLM EIS considers considerably more acreage. The possible size of the Lechuguilla Cave system and the probability that Lechuguilla Cave extends beyond the current boundaries of the national park suggest that we may need to consider a larger withdrawal area. We are not prepared at this time, however, to make specific recommendations in this regard on H.R. 698.

Worldwide attention is focused on the wonders of Lechuguilla Cave and Carlsbad Cavern. The concerns expressed over the request to drill for oil and gas in the area immediately north of the Lechuguilla Cave are being addressed through the EIS process now underway. We commend your efforts to afford a degree of protection for this cave resource, and look forward to working

with BLM, this Committee, and others in Congress to arrive at a solution that fully provides for the protection of Lechuguilla Cave and related cave systems in the project area.

Mr. Chairman, this concludes my prepared remarks on H.R. 698. I would be pleased to respond to your questions at this time.

Mr. VENTO. Yes. Well, I appreciate your testimony, and the work of the scientists in this area. Obviously, we are concerned about the clarity in terms of this issue, as both Mr. Oden and Dr. Fenn have testified to with regard to the specifics of the boundary.

If I understand, Mr. Oden, what you are saying, and Dr. Fenn, is that you are not prepared today because you want to do more work in terms of establishing the proper boundary and conclude the EIS. Is that basically correct, Mr. Oden?

Mr. ODEN. That is correct.

Mr. VENTO. Dr. Fenn?

Dr. FENN. That is correct.

Mr. VENTO. In fact, you implied that there isn't adequate area covered by the bill that I have. In other words, it may not be adequate in terms of covering the areas that need to be withdrawn.

Dr. FENN. I think what we would say is that we would like to have a chance to evaluate the scientific reports and see if there isn't a firm geologic line that could be drawn to assure protection, rather than the more political lines that have been established now.

Mr. VENTO. But, in reading the report of the Guadalupe Geology Panel to the Park Service, which, obviously, is the information you were relying on, they outline the problem and then the recommendation they make is that a cave protection zone be established on the north side of Carlsbad Caverns National Park. The south side of this zone would be the northern boundary of the park, and the north side of the zone would be defined by the intersection of the deep water table within the north limit of the Goat Seep and Capitan Reef formation or the axis of the Dark Canyon syncline, whichever is the farthest north. No drilling should be allowed south of the north edge of the cave protection zone.

How large an area is that? Is that the map that we have over here, that you have placed up here?

Dr. FENN. It is.

Mr. VENTO. And this formation that your assistant there is pointing to at this time is what boundary?

Dr. FENN. Maybe we can let Mr. Duchene who actually served on that panel, perhaps, answer that question.

Mr. VENTO. Yes. Okay, Mr. Duchene.

Mr. DUCHENE. Let me address the map.

Mr. VENTO. Yes. You have to keep the microphone with you, though. We have sort of an archaic system here. You don't have this walk-around, lecture-type of microphone.

We have the map in front of us, in any case. But I think the other member does not.

Mr. DUCHENE. The map that we have over here covers Carlsbad Caverns National Park, and the area to the north which we included within a recommended cave protection zone. The rock package which contains caves out here includes the Capitan and Goat Seep Reefs and the back reef limestones which are associated with it, all of which can contain caves.

In order to define that, we tried to pick the northern limit of that carbonate package, and also to try to define a geological feature, here the Dark Canyon syncline, which we felt would be a limit to where any hydrocarbons or toxic gases leaking upward from below

would be directed away from Carlsbad Caverns National Park. In this case the Dark Canyon syncline extends across, basically, the northern part or the northwestern part of Carlsbad Caverns, and if you have bubbles of gas that leak upward and they come up underneath the Dark Canyon syncline, which is a basically concave upward bend in the rocks, if they are on the north side of that those bubbles would tend to be directed away from the cave resource and off to the west.

To the east that syncline becomes less well defined. So we chose the pinch-out of the water table against the rock, or the cave-bearing package in order to have a definable northern boundary. Because all of the rocks are located within this area are tilted to the east, we felt that any hydrocarbons leaking upward would tend to either migrate away from the park or westward along the north side of the park and away from the cave resource, if we kept boreholes away from the area inside the protection zone.

Mr. VENTO. Of course, my concern—I think I can hear you all right—is, how does this relate to the leases, how large an area is this that would be then what we call—what we are referring to here as a cave protection zone along this northern boundary. How large an area is it? And where are the leases situated in that boundary?

Mr. DUCHENE. Well, the leases in question are located in this area. I believe the 5100 acres that you referred to lie approximately in here.

Mr. VENTO. Okay. So this is a much larger area?

Mr. DUCHENE. Yes, it is a much larger area up here.

Mr. VENTO. This is the 100,000-acre area, is that correct?

Mr. DUCHENE. Pardon me.

Mr. VENTO. A hundred thousand acre area?

Mr. DUCHENE. No, it is not that large, Mr. Chairman. I would guess that it is probably in the neighborhood of 15,000 acres.

Mr. VENTO. Okay. So it is about three times. And that is 15,000 total, in toto?

Mr. DUCHENE. That is correct.

Mr. VENTO. Okay. It is in total.

In any case, has the BLM had an opportunity, Mr. Oden, to review this report, and if so, do you believe that it has merit?

Mr. ODEN. No, sir, we have not had time to review it. We received the report Friday and the map, I guess, Monday—yesterday. And we do have some questions of the preparers of it and want the Cave and Karst Task Force to also take a look at it. At least one of the members, I believe, on this Guadalupe Committee was also on the Cave and Karst Task Force. We would like to have the opportunity for some discussion and make sure that we are clarified as to the boundaries and the basis for it, and particularly how far east it would go. Looking at that additional acreage on there, it looks like there are some additional existing producing wells and leases that may be involved, including some State leases, State land. So we do want to have further discussion.

Other than that, the people on the committee from their resumes look to be experts, and I wouldn't attempt to question their capabilities.

Mr. VENTO. What administrative tools does the BLM or the Park Service have to carry out the recommendations of the report? Do you have the tools if you decide to do so?

Mr. ODEN. If we go along with the recommendation for no further drilling in the area, we will have to look at compensation then for the lessees who do have drillable locations and leases that haven't been drilled. And absent litigation where a judge would tell us to compensate, we would need direction from Congress giving us the authorization to compensate for whatever taking might occur.

Mr. VENTO. Would you have the opportunity to, in fact, trade the leases within for leases without on an equal value basis?

Mr. ODEN. No. The Mineral Leasing Act and the Reform Act of 1987 would not allow us to trade leases.

Mr. VENTO. The recent Reform Act of 1987?

Mr. ODEN. 1987.

Mr. VENTO. Okay. Has the BLM suspended leasing on public lands within the recommended cave protection zone at this time?

Mr. ODEN. We gave all the lessees in there the opportunity to have their leases suspended. The only one who really needed to take advantage of the opportunity was the lease upon which the proposed well was to have been drilled. It was getting near the end of its term, and they took advantage of that and we did suspend that one lease.

Mr. VENTO. You don't have any new leases that you are opening up in these areas, do you?

Mr. ODEN. No, sir.

Mr. VENTO. Wouldn't it also be desirable to close these lands to hardrock mineral entry at this time?

Mr. ODEN. It might be useful if there are no mining claims on there, and our indications are that there are no locatable or even other leaseable minerals there of any value that we can see.

Mr. VENTO. Well, I think the concern gets to be that all of a sudden you find, as in the case of the Jemez, some common mineral that is patentable and we are off to the races again in terms of surface occupancy for whatever reason, and activities that would be problematic. So it would probably be easier to do that.

I think the confusion is that the BLM has a designation over some of this area, does it not?

Mr. ODEN. I am sorry, sir, I don't understand.

Mr. VENTO. Is part of this Wilderness Study? Is any part of this ACEC as well?

Mr. ODEN. Yes.

Mr. VENTO. That is what I am talking about, is that the BLM has an administrative designation over it, and I think it is important to understand this. Can you explain how that operates in this particular instance? Here we have an area of critical environmental concern. It sounds good but—

Mr. ODEN. All right. I don't have it before me, but we can supply it for the record, just what our management of the prescriptions for the ACEC would be. However, in any ACEC if there happens to be a mining claim there, for example, our regulations provide that they do have to get approval for any operations in there, and any such approval, if there was a mining claim and an operation proposed, would make sure that there would not be any adverse im-

pact on any of the values in there for which we established the ACEC.

[The information follows:]

Management prescriptions for the Area of Critical Environmental Concern and the scenic area within the Dark Canyon Special Management area include:

1. No surface occupancy stipulations on future oil and gas leases on 4,970 acres.
2. Avoid future right-of-way actions on 4,300 acres.
3. Restrict surface disturbance to limit visual and environmental impacts on 4,300 acres.
4. Apply seasonal drilling limitations on 730 acres to reduce visual impacts during heavy visitor use season.
5. Close 4,300 acres to mineral material sales.
6. Limit off-road vehicles use to designated routes and restrict fire suppression and geophysical exploration activities to conform with off-road vehicle limitations.
7. Manage 3,570 acres to conform with Visual Resource Management Class II, and 730 acres to conform with Visual Resource Management Class III, guidelines.

Mr. VENTO. That is interesting Mr. Oden, the purpose. But the operation of it, or the effect of it is, obviously, contradictory. On the one hand there's an ACEC administrative designation of this area, and I don't know the sequence in time, but not knowing the sequence in terms of how this occurred, and then we have the leasing or the continued leasing—in fact the sale of leases, and really I think an orderly progression towards the development of oil and gas leasing. Then I got the report of the scientists here, which I think based on the care with which BLM has proceeded, obviously they are trying to be careful, but it just seems to me that the avowed purpose of the ACEC and the continued activity and performance with regards to leasing, notwithstanding the studies that have been done by BLM, and now finally this report, indicate to me that there is a conflict between those two objectives and the way the policy has proceeded really on two tracks today to the point where we are faced with a big estimate of value and the problem of resource damage not only to the cave but resources that in all probability are on BLM lands, cave resources on BLM lands. If the reports of the scientists, which you said are distinguished academicians in their area, have to be reconciled, you understand my dilemma?

Mr. ODEN. I think I understand. And, of course, these things have progressed over the years. For example, the first gas production in the area dates back to 1974. One of the wells within the EIS area first started producing in 1974. The resource management plan which created the ACEC occurred in 1988.

Mr. VENTO. Well, I understand. And I said I didn't know the sequence of when it was designated. The FLPMA law which accorded ACEC action was a 1976 law, as my staff reminds me.

Let me recognize Mr. Hinchey for any—Mr. Hinchey, did you have any questions of the witnesses? We have got some good witnesses here. I want you to get involved, if you have a question.

Mr. HINCHEY. Well, I would just like to try to understand a little bit more than I do.

You are recommending, Dr. Fenn, that no action be taken on this legislation until after the completion of an EIS, is that correct?

Dr. FENN. That is correct. And the Park Service has a chance to study this report and get its influence into the EIS process.

Mr. HINCHEY. And how long do you anticipate that that would take?

Dr. FENN. Actually, the lead agency is BLM. Maybe I should let Mr. Oden answer that question in terms of timing on the EIS.

Mr. ODEN. Presently our timing on the EIS, that is, before we had received this report, would be to come out with a final EIS in late spring, April–May, then with a record of decision approximately about 60 days after that. The timetable might be delayed a little bit, needing to fold in and take into consideration this latest report.

Mr. HINCHEY. So you might think that it will be August or September? Or October?

Mr. ODEN. That is very possible, sir.

Mr. HINCHEY. What is likely to occur in the meantime?

Mr. ODEN. No new activities have occurred in there or will occur until after the EIS is completed and a decision is made.

Mr. HINCHEY. So no drilling will take place or no new leases will be granted?

Mr. ODEN. No new leases will be granted in the EIS area. No new drilling will take place. We essentially by starting the preparation of the EIS in 1991 actually put a moratorium on the activities in the area.

Mr. HINCHEY. What would be the harm then in passing the legislation?

Mr. ODEN. Only that we would like to be in a position to better advise you as to the exact area to be included in the legislation as well as any other things that we would recommend as a result of our review of this geology report and the conclusions of the EIS.

Mr. HINCHEY. How long has the EIS process been ongoing now?

Mr. ODEN. We started it in September of 1991, I believe. The draft EIS was released in September of 1992 with a public comment period that ended November 20, 1992. We are analyzing those comments and preparing responses and determining what changes in any of the alternatives that we have should be.

And, of course, this Guadalupe Geology Panel Report will be part of that consideration.

Mr. HINCHEY. Based on your preliminary findings, do you anticipate that you would recommend that the scope of this legislation be broadened?

Mr. ODEN. As far as the area is concerned, it very well might be.

Mr. HINCHEY. What is the likelihood of that?

Mr. ODEN. Probably fairly good. I hate to give a definitive answer until all our technical people have had a chance to really digest this and have conversations back and forth with the group that prepared this latest report.

Dr. FENN. We are in the same position. We just got the report on Friday ourselves and haven't really had a chance to review it and so you have heard a figure of 15,000 acres today, but, that is an opinion of a person that was on the committee. The agencies themselves haven't had a chance to study it.

You will notice that those recommendations don't have any sideboards, any east or west boundaries on them, and that is, again, there are some management decisions that have to take place and some recommendations. It looks to me like there is going to be a need to have larger than a 5,100 acre cave protection area, if that is the plan. But how much larger we are not prepared offi-

cially to say at this point until we have a chance to study the report.

It is the National Park Service's desire to have time to study that report and look at things that is causing us to recommend that you hold up on action on this bill. It may not be sufficient to protect the case.

Mr. HINCHEY. I just think that the chairman is trying to do something very important here in terms of the national heritage and in terms of protecting what appears to be an extraordinary natural resource. I just want to congratulate him on taking this far-sighted look at this and proposing this legislation.

Mr. VENTO. I thank the gentleman. I think that your questions are right on. I think we are faced with a dilemma if we let this process proceed, and it looks to me as though the no drill alternative in all probability is what may be the conclusion, maybe even over a larger area. But in the name of trying to perfect the bill, we may end up being co-opted in terms of what the decision might be, and I think in all probability even if a decision is made for that no drill alternative, as Mr. Oden said, they need legislative action. So I hope that we might be able to fashion legislation at least stating the expression of the House as to at least a minimal area that should be available for protection and giving some flexibility to expand that through administrative action by the BLM or the Park Service.

I don't want to editorialize, but I think your line of questioning, Maurice, is right on.

Ms. Shepherd? Did you have further questions, Ms. Shepherd?

Ms. SHEPHERD. Thank you. I have just one question, and that is, what are the alternatives that are open to you that you would recommend should you choose to enlarge the area that is protected? What levels of protection do you give? It would just simply be restricting it to drilling?

Mr. ODEN. Alternatives could be a larger area with no drilling in part of it. Could be with additional drilling only in certain places or under certain circumstances in another part. The most extreme alternative would be to say no further drilling and plugging of the existing producing wells in the area. A whole range of things could be looked at.

Ms. SHEPHERD. Did you have very much testimony in behalf of drilling? Is this an economic issue in New Mexico relative to the people that live in the area?

Mr. ODEN. Yes. There were quite a number of comments in response to the draft EIS about the economic needs and the fact that some people believe that the drilling could continue under appropriate mitigating measures, and still obtain the resources of the gas as well as protect the cave. So there are comments on all sides.

Ms. SHEPHERD. No further questions, Mr. Chairman. Thank you.

Mr. VENTO. We are pleased to welcome our colleague from New Mexico. I know that he has been busy on the Intelligence Committee and other work this morning.

Mr. RICHARDSON. Mr. Chairman, I have no questions. I did want to thank you for holding a hearing on this important New Mexico bill.

Mr. Chairman, I think your bill on the Lechuguilla is a good one. If you recall, you and I thought we could accomplish the same goal several years ago by a dialogue on the floor, and apparently because we are coming back this way we probably need to put this in legislative language. But I think you have got a good bill here. I think it is needed. I hope we can accommodate some of these concerns.

Mr. VENTO. Well, I earlier—if the gentleman would yield—recognized his efforts to legislate in this area early on. There may have been others from New Mexico too, but the gentleman was most pre-eminent in my memory of his outstanding role, as he is with most New Mexico policies.

Mr. RICHARDSON. Mr. Chairman, I will yield some more time. [Laughter.]

Thank you.

Mr. VENTO. Well, as I said, we are pleased to work on this. Obviously, the concerns that are being raised really are positive and I accept them in good faith, Mr. Oden, in terms of strengthening the bill we have talked about, trying to avoid mineral entry, and I think there are other concerns here. One of the statements—if the gentleman has concluded his questions, let me just point it out—Dr. Fenn, I am tempted to ask you about the difference between obligate fungi and symbiotic fungi, but I withhold, knowing that I know the answer to it already and it would bore my colleagues.

But it does show some very interesting life forms that are in all probability here and as we begin to explore those types of protein substances and their application in terms of other problems that we have. It is very important to maintain these. It may be worth a lot more than whatever the value of these leases are, as we try to preserve this unique and specialized, absolutely I think specialized, indigenous types of microbes that may be present here.

So I will leave that and the rickettsia and other topics to my microbiology efforts. You know, you have to be careful with me because I have more entomology than any other Member of Congress.

Dr. FENN. I see. I will make a note of that.

Mr. VENTO. It doesn't serve me too well in terms of the Banking Committee, but over here it might have application. I have been trying to get Mr. Richardson for years to explain more of the lifeforms and the Jemez salamander, the famous Jemez salamander, which is still an outstanding issue between us. He has got to get his homework done.

Mr. RICHARDSON. Mr. Chairman, in that connection I would like to ask unanimous consent to insert my statement and my exposition on the salamander in the record.

Mr. VENTO. Without objection, so ordered.

One of the concerns, seriously, Dr. Fenn, that I had, and I am sure that you noted it, being Park Service personnel, was the concern of the Park Service, who I feel took more of a passive attitude in terms of protection of resources. You know, none of us expect buffer zones to be demonstrated, but it is not unknown, for instance, where there is a resource, an obvious resource problem which emanates from outside the boundaries of a park, for it to be addressed by the Park Service, whether that is geothermal, and that is one that has occurred in the Yellowstone area, or whether

it is the hydrologic features that have occurred with the Everglades and/or the type of oil and gas leasing that is occurring with regards to Carlsbad Caverns. Lechuguilla, after all, the opening to the cave and access, is on a Park Service designated area.

So I am concerned about the fact that the Park Service, I feel, didn't take an aggressive enough attitude and that there are Park Service tools that were available, short of BLM withdrawal or designation of further areas as park or legislative, and I just wanted to state that for the record. You might want to respond on behalf of the Park Service at this time.

Dr. FENN. Thank you, Mr. Chairman. In fact, I would like to defer that to Mr. Kerbo, who I think has some comments to share with you, being the person on the ground there with that issue.

Mr. VENTO. Yes. Okay. Mr. Kerbo?

Mr. KERBO. Yes, Mr. Chairman. Being the cave specialist at Carlsbad Caverns National Park when the breakthrough in Lechuguilla Cave occurred, in May of 1986, we weren't sure for some months, until toward the end of 1986 that in fact this was going to be a major cave. Oftentimes a cave in the Guadalupe Mountains, having hit one of the joints running perpendicular to the reef front in that point actually stop, and Lechuguilla Cave did that relatively quickly. So we withheld news releases until November of that year when finally a way around this barrier was discovered by explorers and the cave began to expand at, for cavers, quite an alarming rate, and we did begin to consider that since the surface there was wilderness that the cave was going to eventually extrude from beneath that surface wilderness designation and protection either onto adjacent BLM lands or underneath lands on the National Park that were not designated wilderness.

We attempted to come to some proposals that would protect the cave by virtue of it too being a wilderness area. So, as early as 1988 we began to consider a cave or underground wilderness, or portions of that cave. Not necessarily those with already that designation, but it was our only avenue that we could reasonably come to at that time to protect a cave that was going to wander off the park or underneath other park properties that would keep, perhaps, the development of those portions of the cave in the future, even by the National Park Service, and that continues to be a concern that as Lechuguilla Cave which is currently being managed as a Category 4 cave, which is one that is either newly explored—newly discovered, excuse me, or newly discovered portions of a known cave, and we are beginning to zone it into sections where only so many people are allowed into each section of the cave, and there are many restrictions on the explorers and researchers that enter the cave.

So we have been concentrating on the known cave, and one of our problems, of course, has been what do we do when the cave leaves the park? What do we do when the cave leaves surface-designated wilderness? And I believe that this bill will finally, through some of those earlier, perhaps misguided efforts of wilderness designation for that cave eventually gain us at least the same measure of protection for the subterranean resources that we had hoped that wilderness might do.

Mr. VENTO. I think the problem is that while you have had some policies—I mean the engagement of the BLM in this. Did the Park Service support the EIS for these lease procedures that we are talking about here?

Dr. FENN. We did, yes. In fact, we were very strongly supportive of the fact that we needed a full EIS rather than an EA or anything less in terms of assessing the potential biological effects of those actions.

I would add to Ron's statement in answer to your question. The Park Service, as a whole, I think, is realizing that it does need in fact to be more proactive. A lot of times what happens outside of park boundaries has a profound—could have a profound effect, on what happens inside parks. I think the agency as a whole is recognizing the need to be more proactive in those kinds of issues.

Part of what happened with the Lechuguilla situation is that cave exploring was occurring, the cave kept moving closer and closer to these areas, and you almost had two events colliding from opposite directions at once. It may look like, in retrospect, that we weren't as involved as we should have been, but I don't really think that was the actual fact on the ground.

Mr. VENTO. When, Mr. Oden, were these leases issued?

Mr. ODEN. I think I will have to—

Mr. VENTO. At least those that are within the 5100 acres. You have to yield to Mr. Incardine?

Mr. ODEN. If you will hold on a moment, Mr. Incardine, I believe, can help with that.

Mr. INCARDINE. The leases were issued within the study area between the years of 1977 and 1991.

Mr. VENTO. And what was the activity in—you said between 1977 and 1991?

Mr. INCARDINE. That is correct.

Mr. VENTO. As late as 1991 they were still issuing leases?

Mr. INCARDINE. That is correct. And those are leases that were issued under the Carlsbad Caverns RMP, which had no surface occupancy stipulations. So, in other words, drilling would have to occur from outside of the EIS study area, because there is no surface occupancy allowed there.

Mr. VENTO. What is the size of the EIS study area? Is this the EIS study area we are looking at here essentially? No?

Mr. INCARDINE. No. That is a different designation. The EIS study area is 8000 something acres.

Mr. VENTO. Eight thousand acres. That would be, then, horizontal drilling? Is that what we call that?

Mr. INCARDINE. Directional drilling.

Mr. VENTO. Or tangential drilling?

Mr. INCARDINE. Directional.

Mr. VENTO. Directional drilling. But I mean it seems sort of ironic that, you know, after the discovery that leases were issued that late. I mean wasn't there a recognition at that time within BLM that there was a conflict between cave protection and continued issuance of these leases? These were noncompetitive leases. What was the cost of these leases?

Mr. INCARDINE. These were competitive leases.

Mr. VENTO. These were competitive leases?

Mr. INCARDINE. After 1988 they were competitive.

Mr. VENTO. Okay. After the reform law passed, they were competitive?

Mr. INCARDINE. That is correct. The stipulations were believed to be severe enough to where they wouldn't harm any of the cave resources or visual resources within the special management area that the BLM designated.

Mr. ODEN. Also, these leases that were issued in 1991 were on the western part there. It looks like a minimum of about 3 miles from the Lechuguilla Cave area. And we felt that with the no surface occupancy stipulation at that time on the lease would provide adequate protection. Of course, we learn more and more as we get into this process.

Mr. VENTO. Well, it is surprising to me, considering the nature of the resource being understood at that time, even after 1988, even after they are competitive and the value probably was greater in this area. But when you consider the nature and the cost of the problems that you encounter, just in terms of study, that there would be real problems here.

I would just quote from the recent report on page 12. "It has been suggested in the Dark Canyon Environmental Impact Statement, Bureau of Land Management, '92, that slanted or deviated well bores are potentially mitigating measures to avoid drilling undesirable surface location. It should be recognized that drilling on a slant through several hundred or a thousand feet of vertically fractured cave bearing Capitan-Goat Seep rock package is far more likely to intersect cave openings than are vertical holes. Slant drilling and directional drilling are methods used in the oil and gas industry where the intersection of vertical fracture is desired."

And so if, in fact, they are relying on that type of fracturing in order to facilitate what they are doing, and this is their suggestion, it sounds to me like it is even more harmful in terms of intersecting types of cave resources that might be present there.

And of course, this is 1993. I understand that. But nevertheless, when you have these types of risks, it just seems amazing to me. Last year I was trying to get legislation going on this issue. We passed it through the committee but we were not successful in the final analysis.

But it just seems to me, considering the nature of the ACEC designation and other things, and the concern of the Park Service, that this should not have necessarily translated into issuance of leases at that late a date, albeit 3 miles away.

It looks like from the map that the 51 acres that we have identified that there are operating leases on, or operating wells on, those on that area, is that correct, Mr. Oden?

Mr. ODEN. Yes, sir. There are two producing wells in that 5100 acres.

Mr. VENTO. What are the wells? Is that Sidewinder No. 1 and Diamondback Federal No. 1?

Mr. ODEN. No. The Sidewinder No. 1 is a shut-in gas well. It appeared to be noncommercial when they drilled it in 1990. That was drilled on patented land, both surface and minerals. The two producing wells we are referring to are over in the east in Section 22 and 23.

Mr. VENTO. Now, how far are they from the opening of the cave?

Mr. ODEN. Looks like roughly about 2 miles to the nearest one.

Mr. VENTO. Well, I don't know what the production is there, but again, I mean insofar as the science, that would be a problem. I can understand why the other leases end up getting value. Are they significant producers? I think your testimony said 30 billion cubic feet. Is that correct? Am I reading that correctly?

Mr. ODEN. The 30 billion cubic feet was an estimate based on what was felt would be found in the vicinity of the proposed location over to the west there in Section 19.

Mr. VENTO. What are the nature of these wells then, these ones that are operating?

Mr. ODEN. On the one of them—we will have to get you answers on that. We don't have those available.

[The information follows:]

[Supplied by Mr. Oden]

WELLS WITHIN THE DARK CANYON ENVIRONMENTAL IMPACT STATEMENT STUDY AREA

NO. 1 GUADALUPE FEDERAL: T24S, R24E; SECTION 22, SE $\frac{1}{4}$ NE $\frac{1}{4}$

Operator: W.A. Moncrief; spud: 6/11/84; 1st prod: 9/25/92; original reserves (as of 1/93): 1.89 Bcf; produced (as of 1/93): .03 Bcf; remaining reserves: 1.86 Bcf.

(This well sat idle for 8 years because they were waiting on a pipeline to be constructed)

NO. 1 RIDGE FEDERAL: T24S, R24E; SECTION 23, NE $\frac{1}{4}$ NW $\frac{1}{4}$

Operator: W.A. Moncrief; spud: 7/17/82; 1st prod: 4/21/83; original reserves: 3.5 bcf (Morrow); produced (as of 1/93): 2.47 bcf (Morrow); remaining reserves (as of 1/93): 1.03 bcf (Morrow); additional reserves unproduced (as of 1/93): 2.0 bcf (other Morrow), 0.76 bcf (Strawn).

NO. 1 CHAPARRAL OZ FEDERAL: T24S, R24E, SECTION 17, SE $\frac{1}{4}$ NE $\frac{1}{4}$

Operator: Yates Petroleum; spud: 4/74; 1st prod: 12/80; original reserves: 0.170 bcf; produced (as of 1/93): 0.169 bcf; remaining reserves (as of 1/93): 0.001 bcf.

Mr. VENTO. Okay. Well, I would like to know that.

Well, in your testimony you recommend, Mr. Oden, that language be added to the bill to allow BLM to control access and prohibit mineral, geologic and cave resource collecting except under a permit for scientific purposes. But the relevant section of FLPMA, section 302(b), says the Secretary shall subject to this Act and other applicable law regulate through permits or other instruments that the Secretary deems appropriate the use of public lands. Doesn't that already give the Secretary such authority if he chose to exercise it?

Mr. ODEN. Yes, it does give some authority. We just felt, because of this particular really significant cave, that in the interim before these cave protection regulations from the 1988 bill become effective this in the interim would give us a little stronger control over anybody in the area.

Mr. VENTO. Yes. Well, you have raised the cave protection resources. We acted on that in 1988. That was Rick Boucher's bill—measure, that of the gentleman from Virginia.

When can we expect final regulations to implement the Cave Protection Resources Act of 1988?

Mr. ODEN. My understanding is that the final regulations should come out in the very near future. The draft regulations were issued

in January. They are still in the comment period, I believe, and the intent is to get those issued as soon as we can. That is an inter-agency—that is a departmental effort.

Mr. VENTO. Yes, I know it is with the Forest Service that you are working on that. But we would hope, given this particular concern, that there be some priority given to it.

Do you need additional language for the legislative authority you are seeking?

Mr. ODEN. Pardon?

Mr. VENTO. Do you need additional language for the authority—do you need additional legislative language for the authority you are seeking in this instance?

Mr. ODEN. Yes, we believe so.

Mr. VENTO. Well, if you could submit us a draft of it. I would like to look at it. We obviously intend to move along with the legislation, so if you have specific language and/or boundaries, because I don't think that based on the discussions here this morning that we really can afford to wait. We intend to mark-up on the 18th.

I would just note for the record further with regard to the valuation attributed to, or signed up to by the BLM State Director—what is the normal basis and the utility of such agreement? Is it relied upon? I mean here we have a private appraisal. What is the normal procedure and the utility for such action? Clearly this was intended for impact purposes, to underline something to the committee; the committee has taken note of it. What is the utility of such purpose in the field for this purpose, especially based on private appraisal? It seems to me almost a solo action, you know.

Mr. ODEN. The State Director advised me that he felt that it would be useful to have this information as part of the final EIS so that there would be opportunity to see all the values involved there.

Mr. VENTO. Is this customarily done in the preparation of an EIS in terms of, for instance, when one of the alternatives is a no drill alternative?

Mr. ODEN. No. Usually not to this formal an extent. Of course, we agree to values all the time in exchanges and sales.

Mr. VENTO. Well, I mean when you are in a negotiation there's a purpose to it. So I just find it unusual to find a signed document that is put forward which would state that.

Mr. ODEN. It is a little bit unusual in this respect.

I would also like to correct when I said the comment period was still open on the cave protection regulations. That is now closed.

Mr. VENTO. Oh. Okay.

Mr. ODEN. The people are analyzing the comments.

Mr. VENTO. Well, I very much appreciate the testimony. I have—as I said, there are a number of questions.

Mr. Hinchey, did you have further questions of the panelists? You have no further questions.

I could go on, as I said, and talk about some of the others, but I do want to hear from the other witnesses that we have today. We appreciate very much your efforts. And, as I said, we intend to move forward with the legislation and we hope that your advice and counsel will be useful in terms of boundaries, and we will look for some sort of language that will be workable to permit the com-

mon objectives which have been stated by all of the witnesses, including my colleagues from New Mexico.

Thank you very much, gentlemen.

Mr. ODEN. Thank you, sir.

PANEL CONSISTING OF DANIEL FONG, PH.D., ASSISTANT PROFESSOR OF BIOLOGY, THE AMERICAN UNIVERSITY, WASHINGTON, DC, REPRESENTING THE CONSERVATION COMMITTEE OF THE NATIONAL SPELEOLOGICAL SOCIETY, ACCOMPANIED BY JOHN SHELTON, NATIONAL SPELEOLOGICAL SOCIETY LIAISON TO THE NATIONAL PARK SERVICE; AND JOHN B. GUSTAVSON, GEOLOGIST AND PETROLEUM ENGINEER, BOULDER, COLORADO, REPRESENTING YATES ENERGY CORPORATION

Mr. VENTO. The next panel is Dr. Daniel Fong, the National Speleological Society, and Dr. John Gustavson, representing Yates Energy Corporation.

Welcome, gentlemen. We are pleased to welcome you both. Your statements have been made a part of the record, so you can feel free to summarize those statements or read relevant portions thereof. We have a few other witnesses that we have to hear from this afternoon on the other measures that are before us, and I appreciate their patience as we are trying to accommodate the hearing of a number of different topics that are very important.

Dr. Fong, and you might want to introduce your associate.

STATEMENT OF DR. DANIEL FONG

Dr. FONG. Mr. Chairman, my name is Daniel Fong. I am an assistant professor of biology here at American University in Washington, DC. With me is Mr. John Shelton, past president of the National Speleological Society and presently the NSS liaison to the National Park Service. I, myself, am also a member of the National Speleological Society.

The NSS is a membership organization dedicated to the conservation and scientific study of cave resources. We are here today representing the NSS to express the Society's strong support for the passage of H.R. 698. We have already submitted written testimony for the record, so I will just summarize some of the important points here.

Today there are more than 40,000 caves known in the United States, and there are many more new discoveries each year. Although we believe that all caves are significant and should be protected and managed appropriately, we are really here to underscore the fact that Lechuguilla Cave is a world-class premium cave by itself. We have already heard that it is the deepest cave in the United States, and that it is—at over 60 miles of passages—it is the fourth longest cave in the United States. It is world famous for the extraordinary beauty of the formations, and some of them are found nowhere else, period.

The NSS has provided members of the subcommittee and are probably distributing copies of the book *Lechuguilla, Jewel of the Underground*, and some of you may have attended the audio-visual presentation in this room yesterday. You have seen pictures of its immense size, the intricate geological formations, the phenomenal

crystal structures, and just as awesome wilderness beauty. You certainly must agree that Lechuguilla Cave is superlative by all standards.

In addition, as a scientist myself, Lechuguilla Cave has given us really exciting insights into the complex interaction between geology and microbiology and how caves form. In short, we think that this cave is a national treasure.

Both Lechuguilla Cave and Carlsbad Caverns itself are found in the Guadalupe Mountains, an area that is honeycombed with caves and interconnected fractures. Conditions that favored the creation of these two caves should exist beyond the boundary of the National Park itself. In fact, geological and biological evidence indicate a high probability, not just a possibility, of underground connections between Lechuguilla Cave and the Dark Canyon Area. In fact, some passages in Lechuguilla Cave lie less than a half mile from the adjacent BLM land and it is very likely, we think, that Lechuguilla Cave will soon extend well into the Dark Canyon Area. This is the primary reason why passage of H.R. 698 is critical to the continued protection of Lechuguilla Cave.

Cave openings in the Dark Canyon Area have shown a lot of air movement equal to that of Lechuguilla Cave, indicating the presence of a large undiscovered cave in that area. In addition, studies of the lineament trends by a task force of the BLM itself, a geophysical study of the natural potential of the area as well as data from the Guadalupe Geology Panel of the National Park Service all link known passages in the park to the Dark Canyon Area.

Helium gas released in Lechuguilla Cave was also detected across the National Park boundaries in the Dark Canyon Area. My own work in Lechuguilla concerns the cave's biology. In June, I will again be going down to Lechuguilla Cave and this time specifically to examine the possibility that the cave is part of an extensive underground regional aquifer, and this will be an important groundwater source for the area, especially in the arid Southwest. Of course, any contamination of this aquifer as a result of drilling operations would have a tremendous negative impact on the whole region.

Other biological studies that have already been done in Lechuguilla Cave have shown that there are the presence of several cave-dependent species in the cave itself. It includes a cave limited millipede, a centipede, a dipluran, as well as a beetle. All of these species are found in Lechuguilla Cave as well as in some other caves, you know, in an extensive region. Again, there is biological evidence showing that there is a high probability of underground connections between Lechuguilla Cave and the surrounding area.

Drilling operations are inherently dangerous to caves and cave resources. A Draft Environmental Impact Statement, published by BLM, did an excellent job of detailing some of the hazards to the caves that can be caused by speculative drilling as is proposed. The EIS pointed out, for example, that when a cave is encountered during drilling, fluid or cement, sometimes thousands of cubic feet of cement, can be pumped into the area. You have seen the pictures of the cave formations. You can just imagine what can happen to those formations if that occurs.

Drilling into a cave would alter the barometric pressure, the temperature and humidity in the cave. Cave formations as well as cave organisms depend on a very narrow range of humidity and temperature conditions. Any drastic changes would have tremendous negative impact on formations as well as organisms.

During drilling operations natural gas could also escape, migrate into the caves or into fractures leading into the caves, and an explosive mixture can result when natural gas mixes with oxygen in the caves. Even without an explosion, the balance of the cave atmosphere, again, would be disrupted.

Finally, the EIS pointed out that existing wells in the area have already intercepted crevices and have already experienced problems in terms of lost circulation and had cementing problems. This is already published in the Draft EIS. Clearly, drilling in the area already has experienced many problems that can cause potential danger to the caves.

Potential hazards are unacceptable, we think. Cave resources here are not replaceable. Their value in their current condition is recognized through legislation, the media, as well as tourism.

Cave resources in Carlsbad Caverns National Park and the surrounding area attract visitors from across the country and from around the world. Both cavers and non-cavers come, make special efforts to visit the area just to see the underground resources here. So, undamaged cave resources in the area is of tremendous economic value to people in the area, as well as to all of us in the United States. Any damage to these cave resources, and particularly pollution of the caves by hydrogen sulfide or other gases as a result of drilling, would seriously reduce visitation to the area.

Even if several billion cubic feet of natural gas can be found by drilling in this area, a possibility is being debated by qualified petroleum geologists on both sides, short-term economic value would be insignificant compared to the long-term, irreplaceable value of these caves to all of us in the United States.

The Federal Cave Resources Protection Act, which was passed by the U.S. Congress in 1988, states that it is the policy of the United States that any cave found—significant caves found in Federal lands must be protected and managed. The proposed Department of Interior regulations under the Act stated that all caves under jurisdiction of the National Park Service are deemed to fall within a definition of "significant cave." Therefore this certainly applies to Carlsbad Caverns National Park and Lechuguilla Cave, and all steps should be taken to ensure that no form of surface pollution can invade the area.

While the NSS strongly supports the protection of the Dark Canyon area as well as Lechuguilla Cave through passage of H.R. 698, we also recommend that the area of protection be expanded. The recommended boundaries do not, right now do not encompass the interrelated geologic features that need protection. The entire Guadalupe Escarpment area has the same potential for spectacular caves like Lechuguilla. With new passages being discovered each year, we believe that the buffer zone around Lechuguilla Cave should be expanded towards the north and the northeast.

Thank you for the opportunity to present this statement.

Mr. VENTO. Well, thank you very much, Dr. Fong, for your testimony and the work of your organization.

[The prepared statement of Dr. Fong follows:]



NATIONAL
SPELEOLOGICAL
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Cave Avenue
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STATEMENT

ON

H. R. 698

LECHUGUILLA CAVE PROTECTION ACT OF 1993

BY THE

NATIONAL SPELEOLOGICAL SOCIETY
CONSERVATION COMMITTEE

March 2, 1993

*Celebrating
fifty years
dedicated to
the exploration,
study, and
conservation
of caves.*

STATEMENT

BY THE NATIONAL SPELEOLOGICAL SOCIETY ON THE LECHUGUILLA CAVE PROTECTION ACT OF 1993

Presented by Dr. Daniel Fong
March 2, 1993

Mr. Chairman, my name is Daniel Fong, and I am an Assistant Professor of Biology on the staff of The American University in Washington, D.C. I am here today representing the Conservation Committee of the National Speleological Society (NSS) and want to express the Society's strong support for passage of H.R. 698.

The NSS is a non-profit national membership organization concerned with the conservation, scientific study, and exploration of caves. During over fifty years of our existence we have documented that there are more than 40,000 caves in the United States, and many new discoveries are being made each year. Although we believe that all caves have significance and should be managed appropriately, we are not here to argue that Lechuguilla Cave should be protected simply because it is another cave. Instead we want to underscore the fact that Lechuguilla Cave is one of the most significant caves known.

Our members include some of the most knowledgeable people in the country regarding caves and cave resources. These cave specialists and experts agree that Lechuguilla Cave ranks as one of the premiere caves in the world. At over 1,500 feet it is the deepest cave in the United States and currently ranks as sixth longest, with over sixty miles mapped and much more passage anticipated; it is world famous for the extraordinary beauty of its formations, some of which are found nowhere else; and data which has been collected in Lechuguilla has provided scientists with exciting new insights into the origin of oil field porosity and about the complex interactions between geology and microbiology in cave formations.

Not only is Lechuguilla located in Carlsbad Caverns National Park, but also it lies in that portion of the Park which has received official designation as Carlsbad Caverns Wilderness. Where a unique cave like Lechuguilla is concerned, every effort must be made to eliminate any conceivable risk from commercial uses which might adversely affect its very special features.

**Statement by the National Speleological Society
on H.R. 698, March 2, 1993**

NSS members discovered Lechuguilla Cave and on a volunteer basis have worked closely with the National Park Service at Carlsbad Caverns National Park and with the contiguous Roswell District of the Bureau of Land Management to identify and protect these unique natural cave resources.

Both Lechuguilla Cave and Carlsbad Cavern are found in the Guadalupe Escarpment, an area honey-combed with caves and interconnected fractures. Geologists and explorers are convinced that the conditions that favored the origin of these two caves extend far beyond the northern boundary of the National Park. Passages in Lechuguilla have been discovered that lie less than half a mile from the adjacent BLM land. It seems only a matter of time until explorers find the passages which will take them underneath the area now known as the Dark Canyon Special Management Area.

The method by which these caves in the Guadalupe Mountains formed supports our belief in the existence of connections between known passages. Noted geologist and cave expert Dr. Arthur N. Palmer, one of the authors of the book, "Lechuguilla, Jewel of the Underground", indicates that during the formation of the Guadalupe Mountains there was severe fracturing of the rocks. This fracturing, which in itself is the major factor in the creation of the area's caves, also is the primary reason why the passage of H.R. 698 is so critical to the continued protection of Lechuguilla.

Several cave openings in the Dark Canyon area, such as Big Manhole Cave, have air movement equal to that of Lechuguilla Cave and indicate the presence of large, as-yet-undiscovered, caves in that area. Both the Bureau of Land Management and the National Park Service have conducted geologic studies which support this expectation. The BLM Cave and Karst Task Force, in its study last year of lineament trends, Mr. Art Lange's natural potential geophysical study, and the Park Service's Guadalupe Geology Panel, all link known cave passages in the Park to the Dark Canyon area.

The BLM Task Force also proved an air connection with a helium study in which that gas was released in Lechuguilla and was detected in a well across the National Park boundary in the Dark Canyon area (see the BLM Dark Canyon Draft EIS, p. 3-18). Clearly, any pollution by gases released by drilling could enter Lechuguilla Cave. Some gases frequently released by drilling, such as hydrogen sulfide, are extremely toxic to humans and other animal life. Hydrogen sulfide, in particular, is common in the rocks beneath the area and is a well-known hazard

Statement by the National Speleological Society
on H.R. 698, March 2, 1993

even to workers at the surface. It is extremely toxic and corrosive and kills instantly at levels of only one tenth of one per cent in air. In addition, the acids which would be formed in the cave by escaping gases would change existing conditions and damage the spectacular mineral formations in the caves.

My own work in Lechuguilla concerns the cave's biology. In June I will again be going to Lechuguilla with several colleagues, this time specifically to examine the possibility that the cave is part of an extensive regional aquifer that is an important ground water source. Of course, any contamination of this aquifer as a result of drilling would have a serious negative impact on the whole region.

The aquifer has the potential to harbor a diverse and unique animal life. The Edwards aquifer in Texas is well known for its diversity, and species related to some of the Edwards aquifer animals recently have been found close to Carlsbad Caverns National Park. One, an amphipod, *Artesia wellbourni*, was found in Border Cave in Culberson County, Texas, located only about fifteen miles southwest of the Park.

Biological studies which already have been conducted have revealed the presence of several cave-dependent species, including a millipede (*Speodesmus tuganbius*), a centipede (*Thalkehopus grallatrix*), an undescribed species of dipluran, and a wide-spread but undescribed *Rhadine* beetle. All of these species are found in Lechuguilla as well as in other caves throughout an extensive region. Again, this is a clear indication that underground connections exist between Carlsbad Caverns National Park and the surrounding area.

Drilling operations inherently involve dangers to cave resources which seem unavoidable with the current state-of-the-art. The Dark Canyon Draft Environmental Impact Statement published by BLM and relating to a proposed drilling operation in Dark Canyon lists the following hazards to caves posed by drilling:

1. If a cave is encountered, drilling fluids pumped into it under pressure (e.g., water, additives, cuttings, and mud) would flood the cave passage (p. 4-2).
2. Drilling into a cave would alter the barometric pressure, temperature, and humidity in the cave, whether or not it has a natural entrance to the surface, altering or destroying speleothems and cave microorganisms (pp. 4-3, 4-4).

Statement by the National Speleological Society
on H.R. 698, March 2, 1993

3. If a dry cave is encountered, cement is pumped in to seal it -- in many cases, thousands of cubic feet of cement (pp. 4-3, 4-4).

4. During drilling, completion, or production of the well, natural gas could migrate into caves or into fractures that lead to caves, contaminating them. An explosive mixture could result when the gas mixes with oxygen in the caves. Even without an explosion, the delicate balance of the cave atmosphere would be disrupted, causing rapid deterioration of cave formations and the disruption or death of cave life. This could happen even after a well was depleted and plugged. (pp. 4-4, 4-5)

5. Chemical leachate from lined mud pits could penetrate into underlying caves (Table S-1).

6. Table F-2 includes an extensive list of existing wells in the area that have intercepted cavities, lost circulation, or had cementing problems. Clearly the drilling in that area already has experienced many problems that are potentially dangerous to caves.

These potential hazards are unacceptable. The cave resources that may be lost are irreplaceable. Their value in their current condition is widely recognized through legislation, the media, and tourism.

The cave resources located in Carlsbad Caverns National Park and the surrounding area attract visitors from across the country and from around the world. Both cavers and non-cavers make a special effort to visit this area in order to view the cave resources found here. The protection of undamaged cave resources therefore represents an effort of tremendous economic value to the Carlsbad area of New Mexico. Many jobs and businesses depend heavily on tourist dollars. Any damage to the cave resources, and particularly pollution of these caves by hydrogen sulfide or other gases, would seriously reduce visitation by both tourists and explorers.

Even if several billion cubic feet of natural gas were found by drilling in this area, a possibility debated with qualified petroleum geologists on both sides, this short-term economic value would be insignificant compared to the irreplaceable value of these caves to all the people of the United States.

The Federal Cave Resources Protection Act, passed by the U. S. Congress in 1988, states that it is the policy of the United States that Federal lands be managed in a

Statement by the National Speleological Society
on H.R. 698, March 2, 1993

manner which protects and maintains significant caves. The proposed Department of the Interior regulations under the Act which were published in the FEDERAL REGISTER on January 13, 1992, stated that all caves under the jurisdiction of the National Park Service "are deemed to fall within the definition of 'significant cave'." The Act therefore clearly applies to the caves of Carlsbad Caverns National Park, and all steps should be taken to ensure that no form of subsurface pollution invades this area.

While the NSS strongly supports the protection of the Dark Canyon area through H.R. 698, we also recommend that the area of protection be expanded. The recommended boundaries do not encompass the interrelated geologic features that need protection. The entire Guadalupe Escarpment area has the same potential for spectacular caves like Lechuguilla. With new passages being discovered each year, we believe that the buffer zone around Lechuguilla Cave should be expanded several miles toward the north and northeast, parallel to the Escarpment. In addition, consideration should be given to including a portion of the Lincoln National Forest to the west, where caves in related geologic features can be found.

Thank you for the opportunity to present this statement.

Mr. VENTO. We are pleased to welcome Mr. John B. Gustavson. I think I Minnesotized your name with an F, but I have corrected it now.

Mr. GUSTAVSON. You were close, Mr. Chairman.

Mr. VENTO. Welcome.

STATEMENT OF JOHN GUSTAVSON

Mr. GUSTAVSON. I am John Gustavson, and Members of the Congress, ladies and gentlemen, I have been asked to come here today, and let me make clear right away that although the agenda states that I represent Yates Energy Corporation, I and my firm are totally independent mineral appraisers. However, in this particular case it came about that an independent appraisal needed to be done, and for various funding reasons this particular appraisal could not be done in a formal sense under funding by the BLM, wherefore Yates Energy Corporation together with the BLM agreed that they would hire, that they would retain an independent minerals appraiser. So, therefore I am in the unusual position of not really being here as an advocate for your bill, Mr. Chairman, nor am I an advocate against your bill, Mr. Chairman. I am here strictly to testify with regard to the facts as I see them, the facts with regard to the fair market value.

I have already made available a copy of my testimony, so in order to save time I am going to only spend about 30 seconds to a minute to qualify myself, since this is the first time I have the opportunity to testify for the committee.

I am both a geologist and a petroleum engineer, and through years of experience I have also become a minerals appraiser. My profession affiliations include membership in the American Institute of Professional Geologists, Society of Petroleum Engineers, and the American Institute of Minerals Appraisers. My academic training includes Masters degrees both in engineering and in geology, and I have also had various teaching appointments during my career.

Very specifically, I have for the last, say, 20 or 25 years functioned as an independent consultant, and I am very proud to call myself a consultant with a capital C, indicating that I may be available for hire but it is on a fee-only basis, and that I am not an oil operator nor am I in any way claiming to have a single barrel of oil attached to my name or my company.

I am in the unusual position of having approximately equal numbers of clients on the industry side and on the government side. Thus, I have served as an expert for the U.S. Department of Energy in a recent case at the so-called WIPP site, not too far from this particular case. In that case I was on the government side in a comparable case where it was a matter of estimating the fair market value of some soil formations that, unfortunately, encroached on the proposed WIPP site, and that caused substantial delay in that whole activity.

I have been and I am an expert appraiser, independent appraiser for the U.S. Army Corps of Engineers, having just within the last year testified in the State of New Mexico in U.S. Claims Court and in case of a condemnation for an expansion of the Melrose Bombing Range. In that particular case there was a more than 10 to 1 dif-

ference in the appraised fair market value between the appraisal which I performed for the U.S. Army Corps of Engineers and what industry and landowners prepared. I am happy to report that that particular case turned out in the favor of the U.S. Government—that was my side—and there are records available that shows how I performed an independent appraisal.

I can also mention there are, much to my chagrin, perhaps, that I sometimes work for the Internal Revenue Service, but don't we all these days? I have therefore the honor of both performing expert testimony and expert appraisal for the Internal Revenue Service and I have on several occasions, and as I said here, I am also in cases against the Internal Revenue Services. Needless to say, not the same cases.

Department of Interior has for many years been a client of mine, various of the agencies thereunder, and since some of these cases unfortunately go to court, I can also say that I have served and am serving at this very moment as an appraisal expert for the Justice Department in comparable cases to this.

Now, just to make sure that the Congressional Record doesn't show me as a hired gun for the U.S. Government, I will also state that I work frequently for the oil industry. Major, well-known companies like Texaco and Chevron are, indeed, and have been clients of mine.

Now, finally, let me mention that for about 8 years I have had the opportunity to teach a course called Appraisal of Oil and Gas Properties under the aegis of the University of Tulsa. This is a continuing education course, and I am proud to consider it a forum where representatives of industry, of government, of the financial sectors, legal sectors, accounting sectors, everybody who has anything to do with the valuation of oil and gas properties in the United States have come. Presently we count that more than 2500 people have attended these particular courses, and I humbly suggest that that represents a forum at which time I have the market in the same room, and consequently I conduct my case histories on the basis of that.

So, Mr. Chairman, I am sorry this was more than the 60 seconds I promised, and I will now very speedily give the opinion and the base for the opinion that I am offering with regard to the fair market value of 18.7 million, and I will then be, certainly be willing to ask any questions you may have with regard to the appraisal process.

I have been requested to estimate the fair market value of the so-called Yates Energy lease in Township T-24 South, Range 24 East, Eddy County, New Mexico. The property consists of approximately 1600 acres of leasehold obtained from the U.S. Bureau of Land Management. This is common practice in minerals appraisals. I first determined the highest and best use of the leasehold property. Inasmuch as Yates already in 1991 intended to drill gas wells on the lease and to market the produced gas through an existing pipeline, which by the way Yates himself, or Yates Company had constructed only 5 miles away from the lease, and further that Yates was financially capable of drilling the wells, just like Yates had drilled numerous other gas wells of this type before, and also including one on this particular lease. I personally have no dif-

faculty ascertaining that the criterion for current use or use in the very near future was satisfied.

In addition, a detailed geological audit performed by me and my staff will be described briefly in the following. The findings of that audit reveal that there were excellent geologic comparison between the subsurface of the Yates Energy lease and other producing gas fields in the immediate neighborhood, and that the probability of production was so high as to influence knowledgeable buyers and sellers to consider this fact in any bargaining. Consequently, I arrived at the conclusion that the highest and best use of the Yates Energy lease was for the production of gas as well as the income stream associated therewith.

Having thus determined the highest and best use of the property, I proceeded to select the approach that could reasonably provide me an estimate of the fair market value. I selected the so-called income approach which provides the most reliable results when the highest and best use of a property is to produce income in the near future with a high probability.

The base for the income approach is the financial forecast which, consequently, was prepared by me utilizing a reserve estimate. I prepared this on the basis of the available geological and production data for the Yates Energy lease as well as for the surrounding area. As part of this effort, I performed a detail geologic audit that I carefully reviewed through electrical logs as well as various production data and other geologic and engineering data related to the property and the nearby area. This work disclosed that the geologic work already performed in 1991 by Yates Energy and its associates had been accurately performed. Thus sources of data had been accurately transposed onto maps and reasonable interpretations of the subsurface and the gas-containing formations and structures had been made.

I then compared these interpretations which I had derived not only with those provided by Yates Energy, but also with those provided by the U.S. Bureau of Land Management as part of the Draft Environmental Impact Statement. I found that there was good correspondence in all cases, and that this work by various parties, including this independent appraiser, basically confirms the same structural and reservoir morphology of the Yates Energy lease.

Having thus satisfied the mapping and interpretation accuracies, the next task undertaken by me was the risking, that is to say the determination of the probability that the various geologic and petroleum engineering features would indeed be encountered upon the drilling of the Yates Energy 5-well planned program. This was done, and that is documented in the appraisal reports which I have submitted by careful evaluation of both the reservoir which contains the gas as well as the structure which traps the gas in the quantities predicted.

The combination of the various probabilities for reservoir thickness, the location of the reservoir stream channel in the subsurface, the existence of the trapping for it, and the character of the structure led to an overall probability of the gas being trapped exactly as mapped of 51 percent. This number was subsequently used by me in my appraisal as described in the following.

I utilized a drilling scenario which had been planned by Yates Energy in 1991, but which was subsequently stopped by the U.S. Government, and I further utilized the financial parameters associated with updating these to the present time. I was thus able to develop a production forecast. Other parameters included gas prices which I obtained from the nearby El Paso natural gas line. They will also take this gas at a location just 5 miles to the northwest of the Yates Energy lease.

From public sources of forecast, as well as from energy banks, which I monitor on a regular basis, I established that \$1.79 per mcf is a reasonable price forecast for this spring of 1993. Likewise, I ascertained that the petroleum industry as well as the financial industry utilize an escalation figure for gas prices of from 5 percent to 7 percent per year in the price forecast. Consequently, I utilized a 6 percent escalation for gas prices, and I also determined the operating costs, which were found to be typical based on analyzing not only Yates Energy's but also other oil industries operating costs and comparing those in the nearby area. That operating cost was then also escalated at 6 percent per year.

Finally, then by looking at analogous wells in the many surrounding fields, I prepared production forecasts which could be expected from the subject property. This then together with the volumetric content of the interpreted structure on the Yates lease provided me with the information so I could provide a reserve estimate with a cash flow forecast for the property. I covered this with the drilling costs, the costs of laying the pipeline over the 5 miles to the nearby El Paso pick-up, and I was able to complete net revenue flow forecast for the Yates Energy lease. The net revenue, Mr. Chairman, to the operator would be \$82 million over the next 20 years.

The final step in the appraisal was then to utilize several industry proven methods of converting this future net revenue into appraised value at the present time. The methods used are described in detail in my appraisal report, and they include among other things a cash payback method which is used in the analogy with real estate appraisals. Also, I utilized a discounted cash flow method utilizing a discount rate which has been found by my research to be typical in the oil industry and in the financial industry for comparable properties. And finally, I also did a more subjective risk, present worth method which examines a large number of the specific characteristics of the field and consequently applies market value discount factors to the future cash flow for the effect of these.

Now, I then took the values that I achieved from each of these different methods, and I reconciled them; that is, I gave most weight to those methods in which I, by experience, have found greatest confidence. Fortunately, in this case all three methods yielded results which were very close, so the reconciliation was not a difficult task. After I had performed my job, and after I had delivered a copy of my report, my appraisal report to the BLM, the BLM disclosed to me that they had in a separate activity, and actually using a separate methodology, that had arrived at values of from \$18.9 to \$19.5 million for the fair market value. However, I was not aware of that when I did my job, and it in no way had therefore influenced my particular activity.

So, therefore, Mr. Chairman, and Members of Congress, I am pleased to offer this explanation that I estimated an appraised fair market value of \$18.7 million, which I herewith offer to be the value of the Yates Energy leasehold as of May 1993.

Thank you very much, Mr. Chairman.

Mr. VENTO. Thank you, Mr. Gustavson.

[The prepared statement of Mr. Gustavson follows:]

TESTIMONY TO THE CONGRESS
OF THE UNITED STATES OF AMERICA

My name is John B. Gustavson and I reside in Boulder, Colorado. I am employed by Gustavson Associates, Inc. in the capacity of President of a consultant firm with approximately 15 employees. Of profession, I am both a geologist and a petroleum engineer and I have through my experience become a minerals appraiser.

I have been a consultant in the area of minerals appraisal for about 10 years preceded by another 20 years in the fields of oil and gas exploration and production as well as with the economics associated therewith. My professional affiliations include membership in the American Institute of Professional Geologists, the Society of Petroleum Engineers and the American Institute of Minerals Appraisers.

My academic training includes Master's degrees in both engineering and in geology, and I have taught from time to time at the University of Tulsa and at the University of Colorado. I have published numerous articles in professional journals, both those related to the trade as well as in peer-review publications.

My professional experience can briefly be described as having spent the last 25 years as an independent consultant, heading up a company that slowly has gained more and more reputation for providing appraisal of the fair market value of oil and mineral properties. My clients, as well as those of my firm, include both government and industry members. I have thus served as an expert for the Department of Energy, the U.S. Army Corps of Engineers, the Internal Revenue Service, and various agencies of the Department of the Interior. I have also served as an expert for the Justice Department in certain cases.

On the industry side, I have functioned as an expert appraiser for major oil companies such as Texaco and Chevron as well as for numerous independent companies and financial institutions.

With regard to New Mexico, I can claim personal direct experience in the geology, oil and gas production and the economic conditions in southeastern New Mexico, a state in which I also hold real estate, albeit in the northeastern part of the state. As a totally independent appraiser, I have no interest in any oil or mineral properties and my work in this particular case has strictly been that of a fee paid independent appraiser.

Finally, as evidence of my ability to provide an expert testimony in this particular case, I can mention that I already in 1985 had developed a Continuing Education course for the University of Tulsa, which since then has been given numerous times to students all over the country as well as internationally dealing with the subject of *Appraisal of Oil and Gas Properties*. This course, which is the only one of its type in the country, has become widely recognized as a course which keeps detailed track of the market discount factors through hands-on experience and classroom exercises.

I therefore feel qualified to offer the following opinion:

I have been requested, as an independent minerals appraiser, to estimate the Fair Market Value of the so-called Yates Energy Lease in Township T24S-R24E, Eddy County, New Mexico. The property consists of approximately 1,600 acres of leasehold obtained from the U.S. Bureau of Land Management. As is common practice in mineral appraisals, I first determined the Highest and Best Use of the leasehold property. Inasmuch as Yates, already in 1991, intended to drill gas wells on the lease and to market the produced gas through an existing pipeline only five miles away from the lease, and further that Yates was financially capable of drilling these wells just like Yates had drilled numerous other gas wells of this type before, I have no difficulty ascertaining that the criterion for *current use or use in the very near future* was satisfied.

In addition, a detailed geological audit was performed by me, and will be described in the following. The findings of that audit revealed that there was excellent geologic comparison between the Yates Energy Lease and other producing gas fields in the immediate neighborhood, and that the probability of production was so high as to *influence knowledgeable buyers and sellers to consider this fact in any bargaining*. Consequently, I arrived at the conclusion that the Highest and Best Use of the Yates Energy Lease was for the production of gas, as well as the income stream associated therewith.

Having thus determined the Highest and Best Use of the property, I proceeded to select the approach that could reasonably provide me an estimate of the Fair Market Value. I selected the so-called Income Approach which provides the most reliable results when the Highest and Best Use of a property is to produce income in the near future with a high probability. The base for the Income Approach is a financial forecast which consequently was prepared by me utilizing a reserve estimate. I prepared this on the basis of the available geologic and production data for the Yates Energy Lease, as well as for the surrounding area.

As part of this effort, I performed a detailed geologic audit, that is I carefully reviewed electric logs as well as various production data and other geologic and engineering data relating to the property and the nearby area. This work disclosed that the geologic work already performed in 1991 by Yates Energy and its associates had been accurately performed. Thus, sources of data had been accurately transposed onto maps, and reasonable interpretations of the subsurface and the gas-containing formations and structures had been made.

I then compared the interpretations which I had derived, not only with those provided by Yates Energy, but also with those provided by the U.S. Bureau of Land Management as part of its Environmental Impact Statement. I found that there was good correspondence in all cases, and that this work by various parties, including this independent Appraiser, basically confirms the same structural and reservoir morphology of the Yates Energy Lease.

Having thus satisfied the mapping and interpretation accuracies, the next task undertaken by this Appraiser was the risking, that is to say the determination of the probability that the various geologic and petroleum engineering features would indeed be encountered upon the drilling of the Yates Energy five-well program. This was done and is documented in the appraisal report by careful evaluation of both the reservoir which contains the gas as well as the structure which traps the gas in the quantities predicted.

The combination of the various probabilities for reservoir thickness, the location of the reservoir stream channel, the existence of the trapping fault, and the character of the structure led to an overall probability of the gas being trapped exactly as mapped of 51 percent. This number was subsequently used by me in my appraisal, as described in the following.

Utilizing the drilling scenario as having been planned by Yates Energy in 1991, but subsequently stopped by the U.S. Government, and further utilizing the financial parameters associated therewith, I was able to develop a production forecast. Other parameters included gas prices, which I obtained from El Paso Natural Gas, who will take the gas at a location 5.2 miles to the northwest of the Yates Energy Lease. From public sources of forecasts as well as from energy banks which I monitor on a regular basis, I established that \$1.79 per MCF is a reasonable price forecast for this Spring of 1993.

Likewise, I ascertained that the petroleum industry as well as the financial industry utilize an escalation figure of from 5 to 7 percent per year in their price forecasts. Consequently, this Appraiser utilized a 6 percent escalation for the gas prices. Then, I determined the operating costs, which were found to be typical, by analyzing Yates Energy's operating costs and comparing with operating costs of wells in the nearby area. This operating cost was also escalated at 6 percent per year.

Finally, by looking at analogous wells in the surrounding fields, this Appraiser prepared production forecasts which could be expected from the subject property. This, together with the volumetric content of the interpreted structure on the Yates Energy Lease, provided the necessary information to arrive at a reserve estimate with cash flow forecast for the property. When coupled with the drilling costs and with the cost of laying the pipeline over the 5.2 miles to the nearby El Paso pickup, this Appraiser was able to prepare a complete and realistic cash flow (net revenue) forecast for the Yates Energy Lease. The net revenue to the operator would be \$82 million over the next twenty years.

The final step in the appraisal was then to utilize several industry-proven methods of converting the *future net revenue* into an *appraised value* at the present time. The methods used are described in detail in the appraisal report and include a cash pay-back method which I used in analogy with real estate appraisals; also, a discounted cashflow method was used utilizing a discount rate as has been found by my research to be typical in the oil industry for comparable properties, and finally a more subjective risked present-worth method which examines a large number of the specific characteristics of this field, and consequently applies a market value discount factor to the future cash flow for the effect of these.

The values achieved from each of these methods were finally reconciled, with the most weight given to those methods in which this Appraiser has found greatest confidence on the basis of industry experience. Fortunately, in this case all three methods yielded results which were very close, so the reconciliation was not a difficult task.

My final reconciled appraised Fair Market Value is \$18.7 million, which I herewith offer to be the value of the Yates Energy Lease as of May 1, 1993.

Mr. VENTO. When were you asked to do this appraisal?

Mr. GUSTAVSON. I was asked approximately 4 to 5 weeks ago.

Mr. VENTO. Well, I note some of the figures that you use for the escalation clause. In terms of gas, that does have a significant impact, I guess, in the overall value, if there is no escalation or if it is substantially lower than that. Can you give us some magnitude? You obviously selected 6 percent, but what if inflation is to run less than that?

Mr. GUSTAVSON. Mr. Chairman, the answer is that the fair market value when utilizing the income approach is not all that sensitive as long as we stay to single-digit escalation factors and as long as the estimate also escalates the operating cost. But certainly it has a small effect, but it is not major. I stayed within the range of the 5 percent which banks currently estimate gas prices will escalate and the 7 percent which the oil industry estimates.

Mr. VENTO. What is this estimate? You suggested that the reason that Yates Energy, and I note your insistence of not representing Yates Energy Corporation in this process, but being asked here as an independent witness and presenting this on your own without support of Yates in any way; is that correct?

Mr. GUSTAVSON. No, that is not entirely correct, Mr. Chairman. I made the statement that I—and let me clarify, I am not an employee or have any interest in Yates Energy Corporation. I am simply hired on this particular basis, didn't know them before one month ago. I was strictly hired on a fee basis to prepare this particular independent estimate.

Mr. VENTO. And to come to various forums, I guess, to the court or to the committee, and present the valuation; is that correct?

Mr. GUSTAVSON. Excuse me, sir?

Mr. VENTO. And come to the committee and present the valuation. Is that correct? That is part of your assignment is to come here and present the valuation?

Mr. GUSTAVSON. Yes.

Mr. VENTO. Yates has actually directed you to do this; is that correct?

Mr. GUSTAVSON. That is correct. I have been asked to do this.

Mr. VENTO. So they paid for your plane ticket and your expenses and so forth and so on today?

Mr. GUSTAVSON. That is correct.

Mr. VENTO. Okay. Not that I am trying to—I just want to make certain that we understand it, because the implication was that somehow the BLM didn't have the resources and so they were off requesting this. Clearly this appraisal would be valid as of May. But if, for instance, the time sequence was different, then the appraisal would be substantially different again, or the acres would be different. Is that correct? You are talking about 1600 acres here versus—you are just talking about a specific allocation here.

Mr. GUSTAVSON. We are talking about 1600 acres within the 5500 acres that was the—that is my recollection—was the subject of your bill.

Mr. VENTO. That is correct. And there are 18,000 acres that are considered, and there is 15,000 acres there, so all of this is only

valid in the context of one look, one picture, and then it would have to all be done over for another purpose. Is that right?

Mr. GUSTAVSON. This particular property will, of course, not move outside the area if the area is expanded, Mr. Chairman. So I would say that the appraisal would probably remain valid for this particular leasehold, for these particular 1600 acres independent of whether you were to propose to expand your area beyond that.

Mr. VENTO. Yes. Well, one other question, Mr. Gustavson. From your statement I take it that your estimate of value was premised on a drilling scenario planned by Yates. But, does this, as an example, in these terms of 1600 acres, is this an area where there is surface occupancy permitted? Is this an area where there is basically directional drilling that is identified?

The other factor is does this constitute any type of review of the land-use policies that relate to the ACEC or other restrictions that may be put on to prevent or mitigate damage or special restrictions that I would think would affect the estimate? Does this take into consideration any other of these land-use policy limitations?

Mr. GUSTAVSON. I have taken into consideration those factors that existed at the time the Yates Energy prepared to drill this in the spring of 1991 under the valid BLM lease and the prevailing permits and permissions and regulations that related to the surface. As of that time then, of course, a stopping, if you will, of the activities have taken place and the Draft EIS has been prepared. But, in essence, the fair market value that I estimated, and I am pleased to say that we analyzed also what was the fair market value in the spring of 1991, if that were to be the case, there is practically no difference between the two numbers.

Mr. VENTO. So your point is that this recognizes—these types of appraisals recognize no liability in terms of damage to underground resources or formations that might be incident to this activity or any surface activity where you may have damage occurring to the resources as a matter of liability and so forth that would occur. Is that correct?

Mr. GUSTAVSON. It relates strictly to those that, of course, exist in the State of New Mexico and also related to the broader Federal regulations with regard to drilling on government lands. But specifically, it does not take into any consideration what would happen if, for example, an outgrowth of the cave was encountered or a totally new cave was encountered. It does not consider that except utilizing the standard drilling costs as have been experienced in the area.

Mr. VENTO. So, if you had a blow-out in the cave or some explosion or something as a result of the consequence, you know—I note that the BLM witness today testified to the fact, Mr. Gustavson, that frequently at the well sites, even though this is directional drilling that we are talking about here, that there is often various types of materials associated with that that can and do cause contamination and other problems, which I don't know how the liability or reasonable care clauses might go, but that would obviously affect the impact or the profitability of any such lease, would it not?

Mr. GUSTAVSON. I have not been asked to study specifically the impact of encountering caves. My work has been strictly limited to the appraisal of the fair market value.

Mr. VENTO. Well, I thought you had studied everything from this appraisal. But I appreciate the question I am asking you is another avenue of interest and concern, obviously one that is the focus of the topic of this hearing, and that is why I felt compelled to push the envelope so to speak in terms of what your appraisal is and what the limits of it were. So I do appreciate your attempt to respond to my questions, and the record I think will show that.

I had a number of other questions, but I think that all the testimony, particularly from Dr. Daniel Fong is important.

Dr. Fong, the species that you identified here as I was listening to your testimony, are these endemic to the area of New Mexico, other caves in New Mexico, those centipedes, millipedes and other—the beetle. I guess you referred to those three.

Dr. FONG. And the dipluran as well. Yes, endemic to that particular region of the Guadalupe Mountains. But I believe the beetle has a wider range and is also found now in the Gypsum Plains.

Mr. VENTO. Where is that?

Dr. FONG. That would be on the south along—into Texas.

Mr. VENTO. Would they be considered candidates under, for instance, the Endangered Species Act, either threatened or endangered?

Dr. FONG. The answer is we don't know, Mr. Chairman. Biological studies in Lechuguilla itself has just barely begun. Most of the effort is concentrated in the microbiological of the cave. That is where a lot of the excitement is.

Mr. VENTO. Well, is that absolutely unique to the cave, endemic to the cave itself, or is it also forms that occur in other caves in this region or formation?

Dr. FONG. You are talking about on microbes?

Mr. VENTO. Yes, the microbiology.

Dr. FONG. That, no, we don't know. We have been sampling the microbes. The problem with microbes—you know, identification of microbes is there are standard laboratories that are set up for identifying microbes, but they use methods that are specific to identifying human pathogens. These are definitely something new. So standard methods really do not apply to that. That means that we have to come up with new ways of identifying these chemosynthetic bacteria that we are finding in the cave.

Dr. Larry Mallory at the University of Massachusetts as well as Dr. Norm Pace at the University of Indiana—Indiana University, sorry, who is a member of the National Academy of Sciences are working at ways of looking at these microbes.

Mr. VENTO. Mr. Hinchey, did you have any questions of the witnesses?

Mr. HINCHEY. Mr. Gustavson, do you have any idea how much Yates paid for those leases in the first instance?

Mr. GUSTAVSON. No, I do not know that.

Mr. HINCHEY. I was just wondering. Because it would be interesting to know the nature of the benefit that might ensue to them.

Mr. GUSTAVSON. Well, like I said, I was asked to make an appraisal of the property as specified, and I have not looked into the

many, many years of history of exploration of Yates in this area except for knowing that they have explored in this area for many, many years, made some discoveries, learned something about the geology and undoubtedly also built a number of dusters.

Mr. VENTO. If the gentleman would yield to me—the number we have been given from BLM in terms of the payment of the consolidation, which is the legal sale of some noncompetitive, apparently some competitive leases when they consolidated a series of leases. I don't know if it is only applicable to these 1600 acres. It may be more extensive than that. It was \$200,000. And that was as late as the late 1980s or 1990. So, this valuation is in light of that, I think, very significant. I guess the valuation doesn't consider that particular aspect. It simply looks at it under the parameters of what Mr. Gustavson has suggested.

Thank you for yielding.

Mr. HINCHEY. Well, I just thought it might be an interesting point, and I thank you for providing that information. I also want to thank you very much for holding this hearing.

Mr. VENTO. Well, it is the BLM that provided it. I didn't. You know that is a BLM—

Mr. HINCHEY. But you provided it to us.

Mr. VENTO. Yes. Sure. Well, I thought it was important to get it in the record. Yes.

Do you have any further?

Mr. HINCHEY. No. Just to say that it might turn out that the highest and best use for this particular resource, the cave itself and as it expands might more be in the area of the aesthetic and even the spiritual. We have already learned that the commercial activities that have taken place near the cave may have, according to Mr. Fong's testimony, I believe he said may have intruded upon it already and may have interfered with this resource.

And furthermore the suggestion that has been made, I think by yourself, Mr. Chairman, and others that the biological benefits that might ensue from the knowledge that we would gain as we learn more about this resource could be far in excess of whatever value might be associated to the minerals that could be derived from the cave itself.

In any case, this is an extraordinary resource and one that needs to be protected, and I think expeditiously in view of the activities that are going on around it. We are very grateful to you, Mr. Chairman, for your activities and for the opportunity I have had to learn about it this morning—or this afternoon.

Mr. VENTO. Well, I appreciate your attendance and attention to this. I think it is an important issue. I think that Dr. Fong has indicated the importance of the microbiology and the lifeforms that are present there, especially the bacteria, and I suppose a lot of other microbiological forms that we may not even be aware of in terms of other types, and which may have an application in terms of a practical utilization.

Dr. Fong, did you want to comment on that?

Dr. FONG. Yes, I do, as a matter of fact. There are two comments. First, of course, is that I think it is practically impossible to place a dollar value on the cave itself because of the fact—we all agree on the magnificence of the cave itself. Placing any kind of dollar

value on it is impossible. It is simply priceless. Like I said, it has got to be treated as a national treasure.

Second, in terms of the—any kind of gas that can be produced and so on are going to be nonrenewable resources. It can be used up. But the potential for endangerment or the hazard, the potential hazard in affecting this priceless national treasure is, no matter how small the probability of that is, the ultimate risk is something that I don't think we can accept, simply because we will be endangering something that is priceless. No matter how small a probability it is, when you multiply the two it is a high risk. It is a risk that we should not take.

A third thing is that the cave in its present condition, and the cave resources in the national park in the present condition will have long-term economic impact, positive impact in the area for as long—into the future. But the gas will run out sometime.

And fourth is that there are unexplored economic values from the cave that we can potentially tap as well. Professor Larry Mallory, whom I mentioned earlier, at University of Massachusetts is specializing in trying to identify antibiotic activity from bacteria that he has isolated from different caves. He has mostly worked with cave bacteria from the Massachusetts—along the New England area, but he has—the last trip I was in, last November, in Lechuguilla Cave I brought Dr. Mallory into the cave and we sampled some of the material. He is also very, very excited and very interested in looking for the antibiotic potential of the bacteria that can be isolated from those caves.

So there are unknowable but tremendous potential for economic, aesthetic as well as all other benefits that we can derive from the cave, if we can protect it.

MR. VENTO. I would just point out and recognize that Dr. Fong and Mr. Sheldon are authorities because they have both been down in that cave. It is about a 150-foot, 160-foot vertical drop. And so, if you are going to be a scientist, you had better be a very young one or one that is in very good shape in order to accomplish this particular feat. I was interested in going down, but, in the name of protecting my staff I didn't go down. [Laughter.]

I tried it on my own, and you can see what happened to me. I have my own problems, already.

Mr. Sheldon?

MR. SHELDON. Mr. Vento, just one quick closing comment. I want to really underscore the point of the significance of this cave. You know, Mr. Fong stated that there are 40,000 known caves in the United States, and that is true, and we feel that they are all significant to some degree. Mr. Gustavson testified, trying to put a financial value on the oil and gas resources of about \$18 million, but Lechuguilla Cave by all consensus of all of our members in our organization—we are the largest organization in the world dedicated to exploration, conservation and research—and from all those members across the country and around the world there is no doubt in any of those minds that Lechuguilla, if it isn't the most significant cave in the world—that is a subjective thing—it is certainly right up at the top of the list. It is one of the finest resources of caves this country has.

It is a priceless national treasure. It deserves the full protection that this government can provide it.

One closing comment is that in the future there will probably be other conflicts with other caves, and I don't want to come across as being, you know, a super tree hugger or a cave hugger, although we sort of are. That is our special interest, and we will certainly, you know, try to propose reasonable management regulations for all caves in this country.

One of the ways it will help resolve some of these issues before they become an issue, in other words, before we are already into oil and gas exploration and cave exploration then comes along and causes a conflict, one of the ways it will help prevent that is by the promulgation of the regulations under the Federal cave law that this committee put through and passed here about 4 years—or 5 years ago.

The regulations are still in the process. Unfortunately, it is taking a long time for them to come out, but I think when they do come out they are going to help offset and prevent some of these problems of the future.

Thank you.

Mr. VENTO. Well, I appreciate that. It is hard to find superlatives to describe the resource that is here. I think we are struggling a little bit with the national treasure, and we hear about the crown jewels, and it is really difficult to put into words the nature of the resource that is present here and really present an accurate description. You almost have to see it.

The National Geographic films and the work that you have all done to really introduce this to the world and to our Nation is I think very important, and so I want to congratulate you both, and your organizations and others that have participated in that. We have an intact ecosystem environment here which, obviously, could be threatened, and we understand that everybody wants to protect it, but, you know, everybody has their job in terms of valuation.

The irony of all of this is that most of the protection could be afforded or could have been accorded by the national government in terms of its own land management agencies if they had used more reason, even as late as 1991, issuing competitive leases that had an impact in this particular area. You might say back in the early Seventies that there was not the knowledge or understanding of the significance of the cave. But after 1985 or 1986—1986, pardon me, that particular excuse no longer should have existed, and yet for 5 years after that, and I don't know what the extent of leasing is, it went forward.

So here we have, and, of course, we could have, I think, arrested things or at least at some point along that point to in fact. We have Yates Energy proceeding ahead without any clear direction of policy from the BLM or the land-use agencies. I would have at least expected the Park Service to weigh in a lot more heavily than was the case in this particular instance. And so here we are faced now, with more severe problems today.

The answer we are getting from the administration is, Wait, we have to study it a little bit more so you get this just about right. Well, my patience is at an end, and I think that we take the knowledge we have now and we move forward and do policy. If it isn't

perfect, that means we will have a job next year to improve it. That does not bother me greatly.

What does concern me is the potential path that we are on right now, which sounds like it would leave this subject to damage, and I think that that is unacceptable. That is unacceptable when we hold ourselves as a nation and as a people in terms of conservation of resources that we have entrusted to us. We wouldn't accept this particular decision if it were being made in some other country. We would be on our toes barking about it, and speaking to the damage that is occurring, and we shouldn't accept it when it is occurring in our backyard.

Well, thank you, gentlemen, for your testimony and your attention and responsiveness to my questions.

Mr. VENTO. I have no further questions. I just want to thank you all for your patience and your participation. It has been most helpful. Thank you very much.

The meeting stands adjourned.

[Whereupon, at 1:33 p.m., the subcommittee was adjourned, to reconvene subject to the call of the chair.]

APPENDIX

MARCH 2, 1993

ADDITIONAL MATERIAL SUBMITTED FOR THE HEARING RECORD

STATEMENT BY
CONGRESSMAN CURT WELDON
BEFORE THE SUBCOMMITTEE ON NATURAL PARKS,
FORESTS AND PUBLIC LANDS

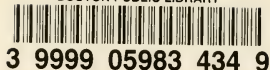
MARCH 2, 1993

MR. CHAIRMAN, THANK YOU FOR ALLOWING ME TO TESTIFY BEFORE THE SUBCOMMITTEE ON NATURAL PARKS, FORESTS AND PUBLIC LANDS ON H.R. 698, THE LECHUGUILLA CAVE PROTECTION ACT OF 1993.

WITHOUT A DOUBT, THE PROTECTION OF THIS UNIQUE CAVE IS OF INTEREST TO ALL OF US. AS YOU ARE WELL AWARE, EXPLORATION OF THE LECHUGUILLA CAVE BEGAN IN 1986. AMONG THE MANY FEATURES THAT THIS WONDER IS NOTED FOR ARE 42-MILE-PER-HOUR WINDS THAT ROAR OUT OF THE ENTRANCE; 16,000-YEAR-OLD FOSSILS IMBEDDED IN THE CAVE WALLS; 20-FOOT GYPSUM "CHANDELIERS"; GIANT "SODA STRAW" FORMATIONS; AN ENORMOUS CRYSTAL GLACIER; AND A ROOM FULL OF 40-FOOT SQUARE CRYSTAL BLOCKS.

ACCORDING TO RECENT INFORMATION ON LECHUGUILLA, ITS MAPPED PASSAGE LIE WITHIN 3 MILES OF THE CARLSBAD CAVERNS, AND SOME SCIENTISTS BELIEVE THE CAVES ARE CONNECTED. HOWEVER, LECHUGUILLA FORMATIONS ARE PARTICULARLY FRAGILE COMPARED TO THE HEAVILY TOURED CARLSBAD CAVERNS. IT IS FOR THIS REASON THAT THE NATIONAL PARK SERVICE (NPS) HAS TIGHTLY RESTRICTED ACCESS TO THE CAVE FOR FEAR THAT EVEN EXPERIENCED SCIENTISTS WOULD DAMAGE SOME FEATURES.

LIKE THE MANY SCIENTISTS AND ENVIRONMENTAL GROUPS WHO HAVE RAISED CONCERNS OVER DRILLING ACTIVITIES NEAR, I ALSO SHARE THEIR CONCERNS ABOUT THE NEED TO PROTECT THIS UNIQUE WONDER. I ALSO FEEL, HOWEVER, THAT EFFORTS MUST BE MADE TO PROVIDE FINANCIAL COMPENSATION TO THE YATES ENERGY CORPORATION/UTI ENERGY CORPORATION FOR ITS OIL AND GAS LEASING TRACKS.



AS YOU MAY KNOW, EFFECTIVE OCTOBER 1, 1989, ROBERT B. BUNN AND HIS WIFE, FRANCES B. BUNN ASSIGNED LEASE NM-62161 TO UTI ENERGY CORPORATION, ET AL. THIS AGREEMENT, HOWEVER, IS SUBJECT TO A CONDITION WHICH REQUIRES UTI TO BEGIN THE DRILLING OF AN EXPLORATORY WELL FOR OIL AND GAS ON LANDS DESCRIBED IN THE AGREEMENT WITHIN THREE YEARS. IF THE ASSIGNEE SHOULD FAIL TO BEGIN DRILLING WITHIN THE TIME FRAME OUTLINED IN THE AGREEMENT, THE LEASE WOULD THEN BE REASSIGNED TO ANOTHER PARTY.

IN ACCORDANCE WITH THIS AGREEMENT, UTI ENERGY CORPORATION, LOCATED IN PENNSYLVANIA, ESTABLISHED A PARTNERSHIP WITH THE YATES ENERGY CORPORATION. THIS PARTNERSHIP WAS ESTABLISHED BECAUSE THEY LACKED SUFFICIENT STAFF IN NEW MEXICO TO OVERSEE A DRILLING OPERATION. SHORTLY THEREAFTER, YATES SUBMITTED TO THE BUREAU OF LAND MANAGEMENT SIX COUNTERPARTS OF ITS APPLICATION FOR PERMIT TO DRILL (APD) ITS DIAMONDBACK FEDERAL NO. 1 WELL.

ON FEBRUARY 7, 1991, YATES RECEIVED A LETTER STATING THAT THE APD "WILL NOT BE APPROVED WITHIN THE NORMAL 30 DAYS AND WILL BE HELD PENDING UNTIL THE CAVE MATTER IS RESOLVED IN THE AREA. NO FIRM APPROVAL DATE CAN BE GIVEN AT THIS TIME". THIS REGULATION REQUIRED YATES TO CONSULT WITH THE APPROPRIATE FEDERAL SURFACE MANAGEMENT AGENCY AND WITH OTHER INTERESTED PARTIES AS APPROPRIATE.

SHORTLY THEREAFTER, THE BUREAU OF LAND MANAGEMENT (BLM) AND NPS INITIATED A DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) TO DETERMINE THE EFFECTS OF DRILLING ON LECHUGUILLA. ALTHOUGH THE DRAFT EIS RECOMMENDED DRILLING, IT WAS REJECTED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). AS A RESULT, BLM HAS SUBSEQUENTLY INDICATED THAT IT WILL NOT SUPPORT DRILLING IN THE FINAL EIS. IN ALL, THIS PROCESS HAS TAKEN NEARLY TWO YEARS TO RESOLVE.

IN A RECENT STATEMENT, BLM ACKNOWLEDGED THAT BECAUSE DRILLING MAY NOT TAKE PLACE, THERE WILL BE A TOTAL LOSS OF 25 BILLION CUBIC FEET OF NATURAL RESOURCES AS WELL AS AN ASSOCIATED BENEFITS LOSS OF TAX REVENUES. FURTHERMORE, THEY HAVE ALSO ACKNOWLEDGED

THAT UTI AND ITS PARTNERS WILL BE DENIED AN ECONOMIC INTEREST OF SOME \$18.7 MILLION DOLLARS BY REFUSING THE APD.

LIKE THE OTHER MEMBERS OF THIS SUBCOMMITTEE, I RECOGNIZE THE IMPORTANCE OF PROTECTING LECHUGUILLA CAVE. I DO NOT DISPUTE THE FACT THAT THIS UNIQUE AND FRAGILE CAVE SHOULD PROTECTED FROM OUTSIDE IMPACTS. YET, WHILE I SUPPORT THESE EFFORTS, I ALSO FEEL THAT IF UTI AND ITS PARTNERS ARE DENIED THEIR PROPERTY RIGHTS, THEY SHOULD BE COMPENSATED UNDER THE TAKING CLAUSE OF THE CONSTITUTION. THAT PRECEDENT HAS PREVIOUSLY BEEN WELL ESTABLISHED BOTH AT FEDERAL AND NON-FEDERAL GOVERNMENTAL LEVELS. IF THE FEDERAL GOVERNMENT DENIES THEIR ECONOMIC RIGHTS, THEN THIS CORPORATION SHOULD BE PAYED FAIR MARKET VALUE FOR THEIR PROPERTY.

BECAUSE H.R. 698 CURRENTLY DOES NOT ADDRESS COMPENSATION ISSUES, I WOULD BE PLEASED TO WORK WITH THE SUBCOMMITTEE TO ENSURE THAT THIS MATTER IS RESOLVED. AGAIN, I APPRECIATE THE OPPORTUNITY TO TESTIFY BEFORE YOU THIS MORNING, AND I WOULD BE HAPPY TO WORK WITH THE SUBCOMMITTEE TO HELP ADDRESS THESE VITAL ISSUES.



4074 South Iriondo
Boise, ID 83706
02-18-93

The Honorable Bruce F. Vento
Chairman, House Subcommittee on National Parks, Forests and Public
Lands
Room 812
O'Neill House Office Building
Washington, D. C. 20515

Dear Congressman Vento:

The Association of National Park Rangers was very pleased to learn of HR-678, the Lechuguilla Cave Protection Act, which would provide additional protection to Lechuguilla Cave and other caves within Carlsbad Caverns National Park. We agree completely that these caves, as well as others in the area, are world class resources which deserve all possible protection.

A recent panel of independent geologists has indicated to the National Park Service that the agency needs to be particularly sensitive to the structural geology of the northern and eastern sections of the Capitan Reef within and adjacent to the park. To this end, the experts are preparing a report and maps indicating a boundary below which they believe no wells should be drilled. If wells already exist, they should be properly plugged when their production life is exhausted.

Once again, the Association believes your proposed legislation comes at a time when some of our nation's finest natural and cultural resources are facing possible destruction or damage from threats originating outside the boundaries of units of the national Park System. Only thorough the enactment and enforcement of timely and forceful environmental protection laws and regulations can we hope to strike a balance between resources preservation and appropriate energy development. Thank you for your continuing efforts to find such a balance.

Sincerely yours,

Richard T. Gale
President

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